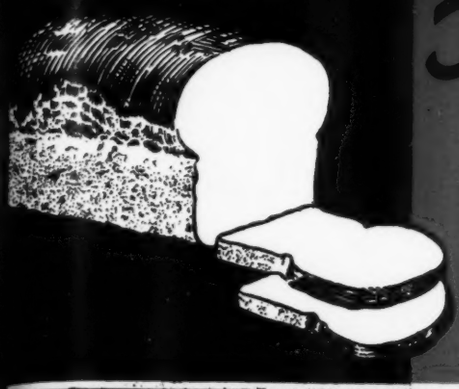


The American BAKER

PUBLISHED FOR THE BAKERS OF AMERICA

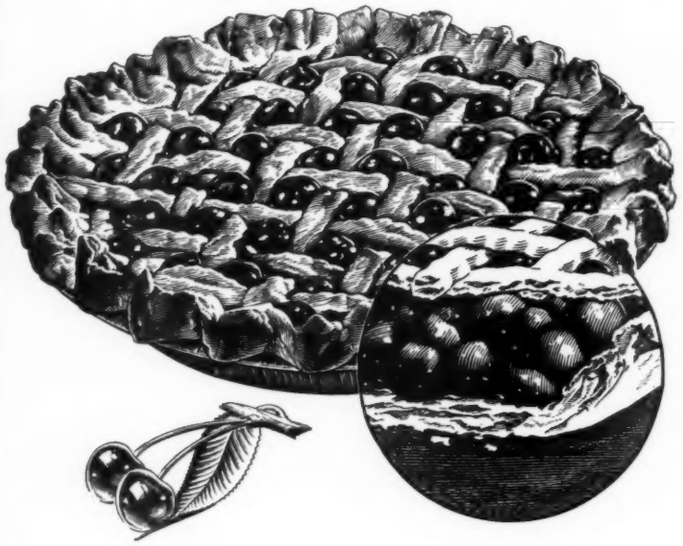
Volume 22
Number 10

OCTOBER, 1954

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General Offices: Omaha, Nebraska

The American Baker

Published Monthly for the Bakers of America by
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Specify Bemis Sandman Pillowcase Bags! Shake them out (not necessary to launder) and sell them over the counter for about 35 cents each. The store price for such quality pillowcases is 70 to 80 cents. Your customers will jump at the bargain and come back for more . . . *and more bread and cake.*

You get back the full cost of the bag and save about 12 cents Cwt. on your flour cost as compared with throw-away containers.

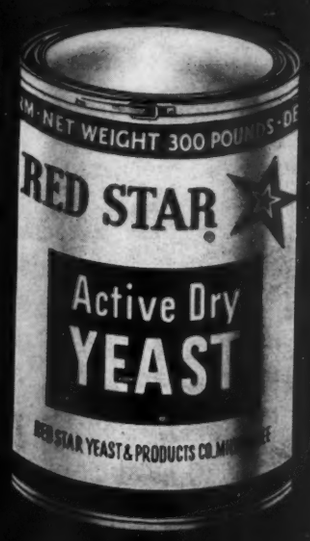
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Think we should get the facts from Red Star
Joe

The new standard of fermentation...



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In center background is the
famous Nebraska Capitol building.

4 MILLION BUSHELS
AT OUR BACK DOOR

With the recent completion of our new storage elevator, we now have facilities for the storage of 4,000,000 bushels of grain right at our mill.

This is added assurance of an ample supply of choice quality wheat from which to mill the best of flour for our customers.

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Identical Performance **FLOURS**

GOMEC — AKSARBEN

GOOCH MILLING & ELEVATOR CO.
LINCOLN, NEBRASKA

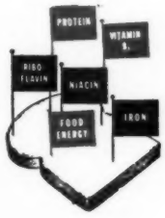
Daily Capacity 5,000 Cwts. *Elevator Space 4,000,000 Bus.*

THE WM. KELLY MILLING COMPANY

KELLY'S FAMOUS FLOUR

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Baker's Key



Every baker holds the key to his own business future and the future of the baking industry in the quality of products he produces. It is a mighty important responsibility. That's why it is wise to start right with a top quality flour like KELLY'S FAMOUS.

Milled exclusively from scientifically selected varieties of finest hard wheat under constant Laboratory Control.

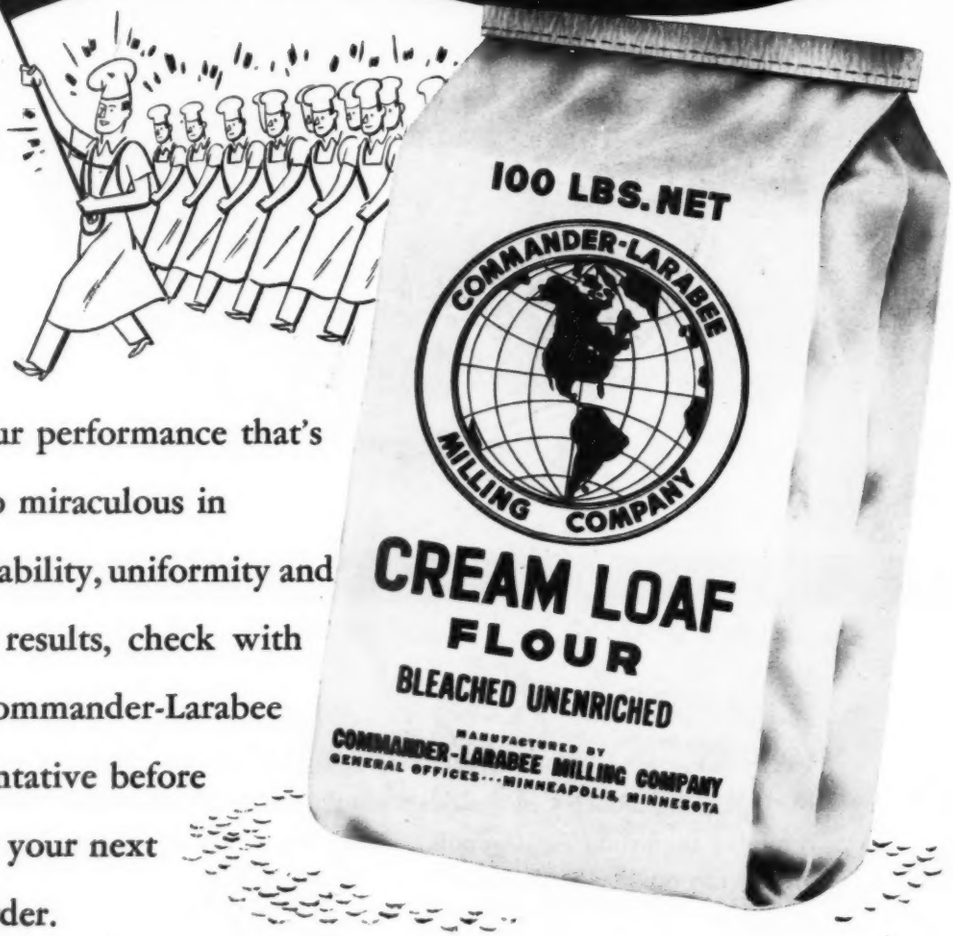
The WILLIAM KELLY MILLING COMPANY

Capacity 5,000 Sacks **HUTCHINSON, KANSAS** *Grain Storage 1,000,000 Bus.*

ALWAYS A POPULAR BRAND . . .

CREAM LOAF FLOUR

NOW MORE POPULAR THAN EVER



For flour performance that's close to miraculous in dependability, uniformity and baking results, check with your Commander-Larabee representative before placing your next flour order.

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Comment . . .

. . . by Cooley

It's well-known in the baking industry that those conventioneers you see at business meetings don't really need to be there. They are already putting into practice the many suggestions for improving business methods and product quality they heard from last year's rostrums.



F. W. Cooley, Jr.

Do the "smart operators" come to the convention programs because they have more time to waste? More money to throw away on foolishness? More desire to be entertained at the expense of others? Of course this is silly, because the inexpert conventioneer is still up in his room preparing for another period of heavy nocturnal activity.

Obviously, then, the convention programs are not completely to blame because the time of those present is always worth more than the time of those not there. Is it because the average baker goes to a convention to be entertained first and learn something second? You can bet your boots that the doctors learn new ways of doing things at conventions. The contractor who remodels your building paid attention to exhibits and discussions at the last convention. The supermarket operators sleep very little in the meeting rooms. The citrus fruit people don't have too much trouble getting tie-ins at the grass roots.

Is it mere coincidence then that those groups aren't bemoaning the decline and fall of profits? Is it an accident that all these new ways of doing things result in fewer mistakes, better methods, and a lot more money?

Is it at all possible that you could be wrong—that the best part of the convention day starts at 10 **A.M.** and ends at 4 **P.M.**?

* * *

The government says now there's no such thing as a "summer slump." The report says you can find 94% of all Americans at home at any given time during June, July and August, and that in 1953, the retail sales volume for those months was exceeded only by December, October and May in that order. Last year June, July and August accounted for 25.3% of the year's total retail volume.

* * *

Quickies for public speakers: Woman walks into bakery, looks around on shelves, looks puzzled. Points to shelf labeled, "Day-old bread, half price," asks—

"I want a loaf of day-old bread. Where is it?"

"I'm sorry, madam, we are all out for today."

"Well, will you save me some tomorrow?"

* * *

Industrial technology provides the extra food on the table, the extra mile on the speedometer, the extra dollar in the wallet. It is the extra bushel in the barn, the extra suit in the closet, the extra diploma at commencement time. It is extra hours of leisure, the extra years of health and of life, and the extra measure of security. (Henry B. DuPont, E. I. DuPont de Nemours & Co.)

* * *

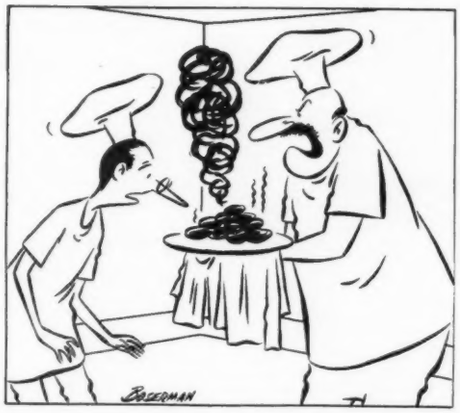
Have you heard about the guy who went broke because he was loving beyond his means?

* * *

Thanks for reading. See you next month.

Frank Cooley

Mr. Crumb . . .



"Don't you dare compliment me on a job well done!"

Editorials . . .

Ten Cents Worth of Bread

TOO INFREQUENTLY do we see in print or hear over our loud speakers all that can be truly said of what a bargain we have in bread. Too often, on the contrary, the emphasis is upon what bread isn't rather than upon what it is. In Today's Health, a popular magazine published by the American Medical Assn., there is an excellent example of what kind of a story can be told—as it ought to be told—about the really sensational values we have in the wheaten loaf.

"Some people," write Dr. James R. Wilson and his wife, Anna May, contributors to Today's Health, "seem to think that calories are all that wheat provides. But such is far from true. If you give up bread when on a reducing diet, you deny yourself an inexpensive source of a number of things your body needs. While it is true that half a pound of plain baker's bread supplies about 600 calories, that certainly isn't all you get for your money. There are bonuses. Along with those calories there is protein, a considerable and significant amount of protein. It is erroneous to think of protein as just another name for meat.

"All of the essential amino acids (the building blocks of proteins) are found in the proteins of both wheat and bread. But, although all the essential amino acids are represented in wheat, the quantity and proportions are such that wheat protein requires supplementation with animal proteins such as occur in milk, eggs, meat, fish and poultry. When eaten along with these animal foods it is safe and economical to supply one-half to two-thirds of the body's protein needs from plant sources.

"At current prices, 10¢ worth of bread will give you almost one-third of this daily recommended allowance of protein while also supplying 600 food calories, which is about one-fourth the caloric needs of an office worker. Wheat protein today is considerably less expensive than protein in the form of meat. Wheat proteins are a real bargain."

Dr. Wilson and his wife offer pungent reflections upon some of the common fallacies about bread. For example: "It seems to be the opinion of some folks that just because nature put bran as the covering on the wheat berry all of us should eat it. But this logic is not sound. If it were, we would be trying to eat the shells of English walnuts as well as the meat." Another: "There has been much loose talk about wheat germ. It has been called a wonder food or a magic food. Such talk is quite ridiculous."

The summing up is succinct: "Bread does not supply all essential nutrients. No food does . . . Wheat plays an important role in our basic economy. Its cost is no measure of its importance as a part of the good diet."

Trade Pulse

GEN. WALTER BEDELL SMITH, who retired as Under Secretary of State Oct. 1, was elected vice chairman of the board of directors of American Machine & Foundry Company Oct. 5. In announcing Gen. Smith's election, MOREHEAD PATTERSON, chairman and president, said that he would have broad administrative duties and would play a key policy-making role in the company.

DAVID O. CLARK has been appointed vice president and general manager of the Southern Biscuit Co., Richmond, Va. Mr. Clark was formerly general manager of the Weston Biscuit Company, Inc., Passaic, N.J. division.

The appointment of DELBERT N. PITMAN as general manager of J. C. Pitman & Sons Company, Inc., Concord, N.H., is announced by the board of directors. Other appointments confirmed were: DONALD R. PITMAN, finance manager; JAMES H. GARNS, results and evaluation manager; WAYNE BALLARD, production manager, and DON LUTZE, design engineer.

The appointment of WEB LESLIE to the sales staff at Milprint, Inc., Milwaukee, has recently been announced by BERT HEFTER, vice president and general sales manager. Mr. Leslie will be located in a Wisconsin territory. He formerly worked in Milprint's national sales department.

JAMES O'CONNELL has been promoted to manager of the Helena, Mont., plant of Eddy Bakeries, Inc., it was announced by JOE McVEY, vice president of the firm. Mr. O'Connell is a son of J. E. O'CONNELL, president of Eddy Bakeries.

J. Y. HEWITT, vice president in charge of sales at the Herman Body Co. in St. Louis, has announced the appointment of BURTON W. MAYFIELD to head the refrigerated body division of the company. Mr. Mayfield was formerly assistant to the head of that division of the Herman Body Co.

LEO DAVIDSON is the new production manager for the Ideal Baking Co., Panama City, Fla. He comes to Panama City from Amory, Miss., where he was engaged in the baking business. LOUIS LEE, whom he replaces, was transferred to the firm's plant in Anniston, Ala., where he will serve as production superintendent. BILLY WICKER, who has been foreman of the Panama City plant has been named superintendent in another unit, the Capital City Bakeries, Tallahassee.

WOLFGANG TITKIN, controller, Doughnut Corporation of America, New York, has been elected to membership in the Controllers Institute of America.

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American Bakers Assn. Completes Convention Slate



CHICAGO—Speakers from within and outside of the industry headline the wholesale cake branch session which opens the four-day 1954 convention of the American Bakers Assn. in Chicago Oct. 16.

The call to order and opening remarks at 10 a.m. in the assembly on the mezzanine floor of the Sherman Hotel will be made by the chairman of the branch, L. J. Nieman, sales manager of the American Bakeries Co., Chicago.

The first event on the afternoon schedule is a panel discussion on "New and Modern Packaging" with Charles J. Lingelbach of the Marathon Corp., Menasha, Wis., as the moderator. The panel will be made up of various representatives in the packaging field.

Fall and winter baked foods will be the major subject for discussion at the retail branch session during the ABA convention.

The session will start at 2 p.m., Sunday, Oct. 17. Otto L. Bergt, Metz Bakery, Chicago, is chairman. The Associated Retail Bakers of Greater Chicago sponsors this meeting.

The Multiple-Unit-Retail branch session Tuesday, Oct. 19, will concentrate its subject matter on factors of keen interest at the point of sale. Robert C. Awrey, Awrey Bakeries, Detroit, Mich., is chairman of the multi-unit-retail session. Meetings will start at 10 a.m. in the Old Chicago Room of the Hotel Sherman.

The young executives of the baking industry will meet for breakfast and an informal discussion of their mutual problems and ideas Monday, Oct. 18, at 8 a.m., in the Crystal Room of the Sherman Hotel. The meeting is for bakery executives 40 years of age and under. Chairman of the event will be Richard O. Worland, vice president of Dietzen's Bakery, Kokomo, Ind.

A featured speaker at the breakfast will be Sid Luckman, quarterback coach of the Chicago Bears. Mr. Luckman will speak on "Professional Football of Today."

The annual meeting of members of the American Institute of Baking will be held Monday, Oct. 18, at 3 p.m. at the institute building, 400 E. Ontario St., Chicago.

Authorities will appraise the activities of the American Institute of Baking and give objective reports on their scope and value.

The Allied Trades of the Baking Industry, Inc., has announced the scheduling of Dr. Preston Bradley, nationally known radio orator and author, as guest speaker for its annual breakfast meeting in the Grand Ballroom, 8 a.m. Oct. 19.

J. U. Lemmon, Jr., Doughnut Corporation of America, will serve as chairman of the meeting. Reports will be given by president Carl W. Steinhauer, Union Steel Products, Albion, Mich.; John A. Kleutsch, Chapman & Smith, Chicago, chairman of the nominating committee, and Peter Pirrie, Bakers Weekly, New York, chairman of the auditing committee.

The problems in house-to-house sales and their solutions will get a thorough airing during the ABA house-to-house branch session at 10 a.m. Tuesday, Oct. 19 in the Crystal Room of the Sherman Hotel. Guy T. Shiverdecker, president and general manager of National Home Baking Co., Dayton, Ohio, as chairman, will give the call to order.

A speaker will be H. J. May, manager of Fischer's Bakery, Inc., Cincinnati, Ohio, whose talk is entitled "We Still Have Problems." Mr. May will be followed by George J. Miller, manager of the house-to-house division of Awrey Bakeries, Inc., Detroit, whose talk is "This Job Can Be Done."

Marketing, packaging and production problems of the wholesale pie business will be discussed during the joint meeting of the Wholesale Pie Branch and the National Association of Wholesale Pie Bakers at 10 a.m. in the Jade Room of the Sherman Hotel, Tuesday, Oct. 19. After the welcome by the branch chairman, Don F. Copell, Wagner Baking Corp., Newark, N.J., Ralph S. Herman, director of bakery sales service, General Mills, Inc., Minneapolis, Minn., will discuss "The Wide Open Market of Pie Bakers." Other speakers during the morning session will be: Charles J. Lingelbach, Marathon Corp., Menasha, Wis., "Pie Packages That Will Sell More Pies"; Monroe Boston Strause, pie consultant, San Diego, Cal., "Pineapple Pies"; and Dr. G. M. Dack, director, Food Research Institute, University of Chicago, who will give a report on research. The morning sessions will close with a report on American Institute of Baking research on pies by Dr. Anthony Castellani of AIB.

Virtually every aspect of the wholesale bread business will be examined at the day-long wholesale bread branch session Oct. 19. The meeting will begin at 10 a.m. in the Louis XVI Room of the Sherman Hotel. Chairman of the 1954 convention committee, Albert Gordon, president of the Gordon Bread Co., Los Angeles, will welcome those attending. Following, C. J. Downing, branch chairman and president of Old Homestead Bread Co., Denver, Colo., will address the meeting.

Winding up the morning session will be a panel discussion on the five day week of sales employees. J. A. Smith, vice president of W. E. Long Co., Chicago, will be moderator. Serving on the panel will be: James J. Bresnahan, assistant to the director of labor relations, Interstate Bakeries Corp., Kansas City, Mo.; Ray J. Murray, vice president, Ward Baking Co., Chicago; Charles C. Slater, Baking Industry Economic Survey, Northwestern University; Hyman Waitzman, regional manager, American Bakeries Co., New York City and Gerard R. Williams, president, Williams Baking Co., Scranton, Pa.

NEW YORK SPECIAL

NEW YORK—The New York Special, all-Pullman streamliner, will leave Grand Central Station here at 3:30 p.m. (E.S.T.), Oct. 16, for the 1954 American Bakers Assn. convention at Chicago.

The streamliner is scheduled to make three other stops in the state, leaving Harmon at 4:15 p.m., Albany at 6:20 p.m., and Buffalo at 11:40 p.m., arriving in Chicago at 7:30 a.m. (C.S.T.), Oct. 17.

Those desiring reservations or information should contact Claude A. Bascombe, Standard Brands, Inc., 595 Madison Ave., New York 22, N.Y.

—BREAD IS THE STAFF OF LIFE—

American Bakers Cooperative Reelects Carl W. Swanson

NEW YORK—The American Bakers Cooperative, Inc., held its fifth annual conference at the New Yorker Hotel, Sept. 20-23.

The first day's session consisted of a formal meeting of the stockholders and directors under the leadership of Carl W. Swanson. The following officers were reelected:

President, Carl W. Swanson, president of Worcester Baking Co., Worcester, Mass.; vice president, William D. McIntyre, president of Tender Krust Baking Co., Eau Claire, Wis.; treasurer, Raymond W. Payette, president of Girard Baking Co., Burlington, Vt., and executive secretary, John E. Lange, general manager of American Bakers Cooperative, Inc., Teaneck, N.J.

Directors appointed were: C. S. Van Vlack, president of Van Vlack & Gamba, Inc., Auburn, N.Y.; George Emrich, vice president of Emrich Baking Co., Minneapolis, Minn.; Joseph Giusti, director of Giusti Baking Co., New Bedford, Mass., and Clement F. Harris, vice president of Harris-Boyer Co., Johnstown, Pa.

Mr. Lange, key-noted all subjects covered. John T. McCarthy, Jersey Bread Co., Toledo, director of cost control, spoke on, "Tax Thoughts Under the New Revenue Code." Edward S. Mack, director of the production control department, held a production session which included a talk by L. F. Marnett, director of the C. J. Patterson Co., whose subject was, "Flour Quality Control and 1954 Crop Flours."

M. J. Swortfiguer, American Dry Milk Institute, past president of the American Society of Bakery Engineers, discussed "The Stable Ferment Process." Peter Pirrie, vice president and engineering editor of Bakers Weekly, discussed the "stable ferment process" as well as a talk on, "engineering and sanitation aspects of the stable ferment." Howard Kramp, A.B.C. production serviceman, spoke on "Sanitation As We Find It."

Joseph J. Kozak, merchandising director, gave a "Report from Your Merchandising Department." Robert Sweeney of the Premier Supply Co. and formerly connected with the baking industry, a talk "The Case of John P. Kilkare," dealing with bakery personnel.

The 1955 advertising campaign was unveiled by Mr. Kozak. The campaign covered all media and members had a preview of what's in store for the immediate future.

—BREAD IS THE STAFF OF LIFE—

DUNWOODY EXPANDS

MINNEAPOLIS—On Sept. 27, 22 men from various parts of the U.S. enrolled in the Dunwoody Baking School, Dunwoody Industrial Institute, Minneapolis, Minn. This makes a total of 76 men enrolled in the baking department of the school.

Plans Under Way For 1955 Census Of Baking Plants

WASHINGTON — The Bureau of the Census is now working out its plans for taking the census of the entire baking industry next year, since Congress just before its adjournment appropriated money for 1955 censuses of manufacturing and distribution, the Associated Retail Bakers of America points out.

Single-unit retail bakeries will be included, as they were in 1948, in the Census of Business. Other bakeries will be covered by the Census of Manufactures, as they were in 1947. Although all the baking industry still is not to be covered in one census, as long urged by both ARBA and the American Bakers Association, both the business and manufacturing census this time will cover the same year, and to the extent practicable, the same information will be called for in both.

Thus, the industry will have the advantage of having figures from all bakeries for the same year, and the Census Bureau will get out a special report combining the bakery figures, so as to give as complete a report on the baking industry as a whole as possible.

The plan is to use for single-unit retail bakeries a somewhat shorter and more simplified form than will be used for other bakeries. These forms will be used in collecting information from a certain percentage of single-unit operators, but not all or even half of them. The rest of the single-unit retail bakeries will be covered on the basis of still another and simpler form, generally similar to that which will be used for some other retail businesses. Then, on this statistical base the Census Bureau expects to project reasonably accurate estimates of information comparable to that which will be actually assembled in greater detail from the rest of the industry.

Since next year's census will be based on 1954 operations, there will be a problem in knowing what invoices, receipts, sales and other records to carry over until the census has been completed. Records used for tax purposes will of course be helpful in providing the information needed by the Census.

Because of the importance to the industry of having complete and up to date information about the baking industry, ARBA, in a bulletin to its membership, urged the fullest cooperation in this census taking.

—BREAD IS THE STAFF OF LIFE—

Kansas City Symposium on New Flour Set for Oct. 7

KANSAS CITY — The annual new crop flour meeting sponsored by the Kansas City section of the American Association of Cereal Chemists and the Midwest Bakers Allied Club will be held at the Hotel Bellerive in Kansas City Oct. 7. A luncheon will be served at 12:15 p.m. and the business session will follow.

Milling and baking characteristics of the 1954 winter wheat crop will be analyzed by a panel consisting of recognized experts in flour and bread production. Three bakers and three millers will participate in the panel. Reservations are being accepted by John Gray, Ekco Products Co., 1325 Atlantic, North Kansas City, Mo.



William J. Colby

William J. Colby, Baking Leader, Dead

ATLANTA—William J. Colby died at his home in Birmingham, Ala., Sept. 21. Mr. Colby had served the baking industry of the South for many years.

An active association worker, his name topped the list of those who would really give time, effort and financial support to a worthy industry endeavor. He served several terms as a member of the board of governors, and a term as president of the Southern Bakers Assn. During his term the office of the Southern Bakers Assn. with a permanent and full-time secretarial staff was established.

The Colby brothers, Earle and Bill, established the Ambrosia Cake Co. in 1925. They worked together and developed a 3-plant business in the South covering most of the southeastern states. This business was sold to Interstate Bakeries, Inc., early in the year.

Mr. Colby is survived by his widow, Mrs. Grace Colby, a daughter and son-in-law, Mr. and Mrs. William Maloney and their children, of Mobile,. Ala.; Mrs. Charles A. Green, of Holyoke, Mass., a sister, and Mrs. Earle Colby, the widow of his brother Earle, who died June 1 this year. "The Southern Bakers Assn., its officers and its members have sustained an irreparable loss in the passing of these two sincere, hard-hitting members. They will be sorely missed in this industry and its association activities," E. P. Cline, secretary-treasurer of the SBA, said on behalf of the membership.

——BREAD IS THE STAFF OF LIFE——

N.Y. Production Men Elect New Officers

NEW YORK—New officers of The Metropolitan Bakery Production Club are Jack Neaves, Harrison (N.J.) Bakery, president; D. R. Rice, Continental Baking Co., New York, first vice president; Frank McClymer, Standard Brands Inc., New York, second vice president and program chairman; W. H. Welker, Swift & Co., Newark, N.J., secretary; Henry Voll, Bakers Weekly, New York, treasurer; and Fred Braun, Jones Pies, Inc., Hillside, N.J., and Glenn Strachan, Ward Baking Co., New York, as additional members of the executive committee.

Labeling Rules On Low Sodium Bread Changed

WASHINGTON — The Food and Drug Administration has amended its dietary labeling regulations insofar as they apply to "salt free" or low sodium content foods designed for dietary purposes.

The new requirements, which were effective Sept. 30, 1954, read as follows:

Sec. 125.9 Label statements relating to certain foods used as a means of regulating the intake of sodium in dietary management. If a food purports to be or is represented for special dietary use by man by reason of its use as a means of regulating the intake of sodium or salt (sodium chloride), the label shall bear a statement of the number of milligrams of sodium in 100 grams of the food and a statement of the number of milligrams of sodium in an average serving of the food. The average serving shall be expressed in terms of a convenient unit or units of such foods or a convenient unit of measure that can be readily understood and utilized by purchasers of such food. For example, an average serving might be expressed in terms of a number of slices, cookies, wafers, etc.,

The American Bakers Assn. said in a bulletin that its Wasington office had been advised by the Food and Drug Administration that breads made without added salt should not be labeled "Salt Free Bread" since there is present some sodium, i.e., salt, in flour and also in milk when used. The proper name for such dietary bread would be "Low Sodium Bread." In addition, to comply with the new regulation, a statement such as the following should be on the label, "Contains no more than—— milligrams of sodium per 100 grams. Each slice contains approximately ——milligrams of sodium." While it is not necessary to have the precise amount of sodium content set forth, it should bear a reasonable relation to the number of milligrams actually present in each 100 grams of the bread.

The words "No added salt" may be used on the label if desired. This, however, is not required. The term "enriched" may not be used in the labeling of the low sodium breads, since added salt is one of the required ingredients for "enriched" bread. However, the bread itself may be enriched and the customary dietary statement for enrichment should then appear on the wrapper.

Since such a bread is not a standardized bread, the ingredients must be listed on the label. The foregoing requirements should be kept in mind when ordering new wrappers for this type of bread, the ABA said.

——BREAD IS THE STAFF OF LIFE——

Oklahoma Bakers Plan Oct. 27 Convention

OKMULGEE — The Oklahoma Bakers Assn. will hold a convention at the Oklahoma School of Baking here Oct. 27, according to an announcement by the officers and John C. Summers, manager of the baking department of Oklahoma A & M College school of technical training.

One of the demonstrations, slated to take place early in the morning, will be on the new fermentation processes in bread production.



ANSWERING THE FADDISTS — Newspaper publicity has taken the side of the milling and baking industries recently, with editors using material supplied by the Wheat Flour Institute. Two articles in the Chicago Daily News pointed out that faddist diets and food fallacies can bring physical harm to dieters, and that enriched bread deserves a place in every diet. Isabel du Bois, food writer, said, "Don't worry about your bread—it has in it what you need."

W. E. Long Co. Sponsors Production Conference

CHICAGO—A conference for bakery production men will be held under the sponsorship of the W. E. Long Co. at the Bismarck Hotel here Nov. 1-3.

The purpose of the conference is to provide clients of the W. E. Long Co. with an opportunity to study improvements in operational methods and to become better acquainted with new developments in bakery production, according to Rowland J. Clark, director of the Long products control department, who will serve as general chairman of the conference.

Two new developments to be discussed on the program are: The ADMI Stable Ferment Baking Process, presented by Lester McLaren of The American Dry Milk Institute; and the Bulk Handling of Flour, to be discussed by Ralph S. Herman, vice president of General Mills, Inc.

"Baking Fresh Flour vs. Baking Aged Flour," a subject presently being debated throughout the industry, will be the topic of a discussion period.

A recent invention for removing double doughs from the make-up procedure will be demonstrated.

Victor E. Marx, secretary of the American Society of Bakery Engineers, will be a featured speaker with an address on production organization, entitled, "You Can't Do It Alone."

W. E. Long production supervisors Albert Burdett, Basil Edwards, Louie Hilbun and Oscar Frisinger are slated to lead discussions on a wide range of production procedures and cost control.

——BREAD IS THE STAFF OF LIFE——

New Cochran Broker

NEW YORK — The Cochran Foil Products Co. has announced the appointment of Harry Snelling as broker for its line of bulk aluminum foil plates for the baking and frozen food industries in New England.

This is in addition to Mr. Snelling's capacity as broker for household and freezer foils of the company.

Mr. Selling will provide the New England area a closer contact with the company's plants in Louisville.

——BREAD IS THE STAFF OF LIFE——

E. P. Cline of SBA Dies After Surgery

ATLANTA—E. P. Cline, secretary-treasurer of the Southern Bakers Assn., died Oct. 6 following emergency surgery the previous week. He was taken ill during the SBA Production Conference.

Mr. Cline served two terms as president of the SBA. He took the permanent association post six years ago following his retirement as president of the Colonial Baking Co., Columbus, Ga. He has since served as chairman of the board.

He is survived by his widow, Carolyn, a son, Richard, and a daughter, Joanne, as well as a brother, William F. Cline, Napa, Cal.



E. P. Cline



Ralph S. Herman



Frank W. Wichser



W. K. Swanson



James E. Stroupe



Sanford V. Epps



Raymond T. Bohn



M. A. Grogel



George T. Carlin

Southern Bakers Assn. Production Conference Sets Attendance Record

By HENRY S. FRENCH
American Baker Editorial Staff

ATLANTA, GA. — An attendance record—close to 400—was hung up as bakers, production men and allied tradesmen gathered at the Southern Bakers Association Production Conference to hear the latest in technological and engineering advances in the baking industry.

Experts from all over the country were brought together to address the conference, held at the Biltmore Hotel here, September 26-28.

General Session

The general session was called to order the morning of Sept. 27 by James E. Stroupe, James E. Stroupe Co., Atlanta, Ga., the conference chairman. Welcoming remarks were given by Sanford V. Epps, H. H. Claussen's Sons, Inc., Augusta, Ga., and the session chairman was J. M. Albright, American Bakeries, Inc., Atlanta, Ga.

Wallace K. Swanson, Stroehmann Bros. Co., Williamsport, Pa., and president of the American Society of Bakery Engineers, in speaking on problems of the hour, recommended a program of all around teamwork between production and management. Industry, he said, is a partnership proposition, and in looking ahead changes should be welcomed. All segments of the industry should be alert to move ahead.

Miss Ann Russell, southeastern representative of the American Institute of Baking, Chicago, who has her headquarters in Atlanta, Ga., speaking on "Consumer Education," gave a round-up of her activities. In eight months in the field, she said, she has called on 800 to 1,000 key people.

Some of the key people fall into the following classifications: 1. Heads of home economics departments of colleges and universities and their staff, which includes: (a) Food, nutrition and health instructors, (b) Dietitians in charge of food services for colleges and universities, (c) Home economics education instructors who train girls for careers in home economics. 2. State School supervisors and school district personnel, as well as teachers in elementary schools. 3. The therapeutic dietitian in hospitals. 4. Farm groups. 5. State and district school lunch administrators. 6. State health departments. 7. Food editors of magazines, newspapers, radio and television stations.

These key people are given various materials prepared by the AIB, and facts with which to combat misconceptions. Proper uses for flour and bread are supplied.

Bakers, individually and collectively, have a place in the AIB program of consumer education, said Miss Russell, and urged all bakers to read all mail sent from the AIB. Some of the ways in which the baker can help are as follows:

"Helping us place in the schools and related organizations our publications on the use and value of bread and bakery products. Have these publications available to give groups visiting your bakery.

"Making available our film, 'Modern Sandwich Methods,' to school lunch personnel. Financial assistance on large requests in your state is helpful. As an example, recently there was a request by school lunch manager for 1,800 posters—'Wheel of Good Eating.' These were to be used in lunchroom in Tennessee. I told her she could have 300.

"Placing 'Eat and Grow S im' in doctors' and dentists' offices. We have a number of bakers who are working together on complete coverage of their trade area with this project. It serves a double purpose: if the doctors and dentists agree to placing the booklet in their offices, they probably favor bread in the diet (this is one way of finding out); and, second, the patients have an opportunity to read the material and take it home with them."

"Bakers are masters of their own fate. Ingredients alone are nothing, but develop into the stuff of which life is made by the touch of the masters hand."

Thus did William F. Thie, Virginia Bakery, Cincinnati, Ohio, and president of the Associated Retail Bakers of America, inspire the bakers at the meeting. Baking is a great industry, he said, and can be made even greater. The nation spends 65 billion dollars annually for food, and the baker must strive to secure some of this business. The baker must turn toward the trend of quality plus convenience —he must make products good, easily served and easily prepared for the table. "He must be on his guard against fads and quacks and must not be satisfied with the status quo."

During his talk, Mr. Thie applauded the efforts of the bakery schools to interest and train young men into products for the baking industry. He invited everyone to attend the Associated Retail Bakers of America convention next April at the San Souci Hotel, Miami Beach, Fla.

A progress report on the school of baking science and management at Florida State University was given by Dr. L. A. Rumsey, Tallahassee, Fla. Dr. Rumsey said the new term opened Sept. 20 with 26 new students from all parts of the U.S. and one girl from Thailand. The total number of students enrolled in baking amounts to 61. "Next June we will see the first four year graduating class," Dr. Rumsey said. "The school presently is building 5,000 square



Martin Eisenstaedt



Orville Pickens



Fred Wheeler



J. E. Mapes



W. A. Richards

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feet of space and putting in equipment and supplies for five new classrooms at a cost of $35,000. The school teaches production, sales management and baking science."

The Southern Bakers Allied Assn. has pledged around $90,000 to get the school started and to keep it going. Dr. Rumsey pointed out the need to build up and maintain a scholarship fund. Following Dr. Rumsey's talk and before the luncheon break, the allied association met for a brief business session and decided to make an effort to allow every member of the Southern Bakers Assn. to contribute to the scholarship fund. The plan is to have every member a personal supporter of the baking school.

"Harnessing the power of people," by A. R. Fleischmann, Standard Brands, Inc., New York, ended the Sept. 27 morning session.

Interest in "people"—rather than in "things" — has been developing since the start of the 19th Century's industrial revolution, he said.

That was the start of what we call the "Machine Age" and in the beginning, quite naturally, "management was more interested in the mechanics of mass production than in the people who manned the machines."

"However, since the start of the 20th Century, the pendulum of management interest has been gradually swinging back again to 'people'," Mr. Fleischmann said. "How long the swing will last I wouldn't dare to predict. At any rate, in this year of 1954, we are smack in the center of a cycle in which almost every forward-looking businessman agrees that his fellow human beings hold the key to his success or failure. And that means people as the mass consumers of the goods he produces as well as the mass producers and sellers of the goods he produces.

"When we consider 'people' as producers, or 'employees,' we are entering the field of industrial relations—the new approach that recognizes, that while workers want better wages, hours and washroom towels, they are equally interested in such intangibles as: Understanding what they are doing and why; feeling that they 'belong'; feeling that their work is appreciated; feeling they are free to express their opinions and so on.

"From this point of agreement and understanding, the relations experts have proceeded to the conclusion that the ability to satisfy the worker's desires, or straighten out his fears and apprehensions, rests largely in the hands of his immediate superiors.

"In manufacturing, the foremen and supervisors hold this key to better relations . . . to better mutual understanding and cooperation. In the baking industry it is held by your shop foremen and supervisors on the production end; your route foremen and route supervisors on the selling end."

Training the Trainer

This new but general recognition of the middle-management group as the key (or road block) to better employee relations has focused attention on what the personnel specialists call—"Training the Trainer." For it is now pretty generally admitted that no relations and training program can possibly succeed that fails to do that job first.

The first question that arises when a company is developing a training program is—"What should the Trainer be trained to do?" When the duties of a supervisory staff are analyzed, the speaker said, it will be found that they are responsible for a multiplicity of operations. However, since it is obviously impossible to train all of them on everything at the same time, it makes sense to select the priority operations which experience has indicated are the most important.

The most basic operations in which the Trainer should be trained are the Selection and Development of Employees, Induction and Orientation (which is personnel jargon for breaking the ice for new employees). Basic Training for New Employees, and training in How to Instruct, Mr. Fleischmann said.

The afternoon session was presided over by Andreas F. Reising, Sunrise Bakery, Inc., New Orleans, La. Merrill A. Grogel, Ekco Products Co., Chicago, was the first afternoon speaker. He discussed foil as a new trend in bakery products merchandising. Describing foil as aluminum similar to kitchen pots and pans, he said it is only .00035 to .0059 inches thick. It has many uses, and as a flexible product is utilized as a free coated wrapper for cheese, laminated to paper as a wrapper for many products. As a rigid product, it is used to form pie plates, made into jar and bottle caps, folded into boxes and formed into punch pressed shapes adapted to multi-purpose processing-packaging-reuse containers.

Foil keeps light from the fats, grease and oils; keeps heat from ice cream and frozen items; keeps moisture in or out; prevents the passage of gases; does not absorb or stain with grease; has no odor and absorbs none; and will not fade, stain or spot with grease, he said.

Showing that higher incomes are bringing what was once the luxury market into the mass market category, Mr. Grogel said that quality will bring extra sales at higher prices. Every line of products should have a sparkling quality appeal for the new "carriage trade," and should have all the service possible built into it.

The cumulative effect of premium quality products, he said, one by one, appearing in foil is to establish it as the symbol of extra service, or skill, or convenience built into an uncompromising quality. The trend toward greater service demands by the public will make even prepared mixes "old fashioned compared to the delicious aroma of oven-fresh baked items which are packaged in foil for warming in the oven at home. Foil lends itself to packaging meal size units, self dividing, sliced, flavor safe, warmability (sell the smell) with a reuse or premium appeal."

George T. Carlian, Swift & Co., Chicago, appeared on the program in a discussion of packaging, freezing and storage of bakery products. The frozen foods industry, said Mr. Carlin, has been growing by leaps and bounds, but now is settling down to where it can be praised as far as the baking industry is concerned. There was a time when radical claims were made for freezing. In some quarters it was said that bread was refreshened by freezing, meat improved, and other statements along the same lines were made. However, Mr. Carlin says that freezing does not improve food. It simply holds it in a state at which it was when it was frozen.

It costs about 1¢ a pound to freeze and another 1¢ to hold, Mr. Carlin said. Bread selling at 17¢ a pound with 2¢ added for freezing makes it impractical, but a cake selling for 80¢ or $1 justifies the freezing process. Mr. Carlin believes that the selling price of a product must justify the cost of the freezing process.

Mr. Carlin believes that bread is not adaptable to freezing. The freezing point for bread is around 18° F. According to experiments he has conducted, bread takes around 4 hours to freeze in a single loaf in a blast freezer to –10°. To freeze a case of bread at –10° it took more than 30 hours. During the period the bread is freezing it must gradually go through a cold zone. This coolness, it has been discovered in recent years, stales bread rapidly. Therefore bread frozen in case lots is well along on the staling process before it is frozen, he said. Mr. Carlin also pointed out that it takes around five hours to thaw a single loaf, and a 2 or 3-day holding period to thaw it to room temperature in the case.

In tenderness tests frozen bread far exceeded regular bread in firmness. In experiments, it took unfrozen bread 5 days to reach the firmness level of a single loaf frozen to –10° over a 2 or 3 hour period and then thawed. The conclusion is that it is not a good idea to try to market soft bread in the frozen state. The freezing process makes the bread too solid, if it is supposed to be a soft loaf of bread. If a freezer is to be used for bread, the bread should be a firm loaf to start with, he said.

The baking industry has been too conservative in promoting frozen pies, Mr. Carlin said. Most varieties of pies lend themselves well to freezing. Frozen pies represent a fast growing industry and their freezing is here to stay.

Packaging for Freezing

For packaging, Mr. Carlin said that a cellophane over-wrap will be apt to crack on long freezing and hurt the salability of the package. A laminated cellophane is desirable to prevent this. Too much head room in a package will result in moisture condensation in freezing. To eliminate this a moisture-proof overwrap should be in close contact with the package.

Flour and enzyme factors related for the production of fine breads was discussed by Frank W. Wichser, Pillsbury Mills, Inc., Enid, Okla. His talk was illustrated with slides.

Explaining the construction of the wheat berry, he said that a resultant flour is composed of many different sized particles. He pointed out that ruptured starch granules are produced by the shearing force of the differential on rolls along with the corrugation of the rolls. These granules are important as a limiting factor for enzyme activity in sponges and doughs through the oven stage.

Mr. Wichser discussed how enzymes were found important through "starter" doughs and led up to specific enzymes. He talked of the function of alpha amylase, beta amylase, and protease enzymes from cereal malt, fungal and bacterial sources. He showed slides of beta and alpha amylase attacking a single and branch chain starch molecules. Mr. Wichser concluded that many of the fungal enzyme tablet preparations cannot be dissolved with enrichment wafers in the confinement of a small container and a drop or two of water. The pH of the water becomes so acid as to inactivate the enzymes. Enzymes are not reversible in their action, even if the medium is brought back to that considered proper for the survival of the enzymes. It is like frying an egg and then turning off the heat, he said. The egg remains coagulated.

A round up of bread wrapping problems and solutions was presented by Ted Jensen, director of the bakery service division Pollock Paper Corp. of America, New York. The lack of a uniform size and the softness of bread present problems in packaging. The second factor is the slicing. Slices frequently are out of line. When this occurs in the project beyond normal contour of the loaf they present two problems: First, the loaf is difficult to transfer and therefore may cause cripples; second, it is impossible to prevent the wrapping material from wrinkling. Such wrinkles will interfere with both the folding and sealing operation to the point where the percentage of rewraps exceeds the normal ½ of 1%, not counting the ones that should have been rewrapped. Dull blades often cause these out-of-line slices, he said.

Tight side guides present a different problem. They make the loaf end hollow and prevent proper sealing. The solution is to recognize the effect it has on sealing and to train the operators to adjust these guides to the point where the slices will be held together, but prevented from separating.

Another factor in the bread wrapping problem is the wrapping machine, the speed of which has been doubled in the last 25 years. As far as the machine is concerned, the problem seems to be one of getting good operators and good maintenance men.

There are several check points on the wrapping machine which should be gone over at least monthly for best results. These are paper knife, lifter table rubber rollers, straightness of plant bars and shear bars, paper runway, retainer rubber on the paper runway, broken web controls and action, cleaning of the paper feed rollers and tightening of the driving belts, complete cleaning of the sealing and folding plate surfaces, temperature of the sealing plates, operation of the automatic loaf rejector mechanism, loaf feeding plate, and the refrigeration unit.

In conclusion, Mr. Jensen said that a general bread problem is one of keeping the folding and sealing plates clean and free of carbon. There is no easy way to remove this carbon deposit. If sandpaper is used the folder will wear out too soon. Boiling in caustic soda does not do a good job. Since there is no effective way of removing the carbon the sensible suggestion is to prevent the carbon from forming. This can be done by coating the heating plate either with silicone spray or Teflon.

Cake Production Session

The program for the final day began in the morning with the talk on cake quality and suggestions for improvement by Orville J. Pickens, Wilson & Co., Chicago. Mr. Pickens said that the decline in cake business points up the need to review cake quality and suggestions for improvement. In the course of his remarks, he said that eating quality and flavor in a cake are the most important characteristics—even more important than grain and texture.

(Continued on page 56)

Flour Market

Wheat Prices Maintain Firmness

The month of September was largely one of watching and waiting for flour buyers, as considerable amounts of flour were already contracted for and prices generally trended upward, making extension of these bookings unattractive. By early October, spring wheat flour prices had moved up about 11¢ sack and hard winter wheat flour prices had gained 15¢ sack. There appeared to be little inclination to book heavily at prices more than a little higher than previous booking levels, now left quite a ways behind because of stronger wheat markets. Setbacks were expected to occur from time to time, but few observers believed that hard winters could be purchased at the early July level or springs at the late August level, unless something quite drastic and unexpected should develop to bear down on prices. The fact that wheat has advanced so early in the crop year—to above the loan level for some desired types—indicates a firm market trend, many market analysts believe.

The relative strength of prices can be attributed almost wholly to the government's price support program which has been drawing off supplies which otherwise might be going to market. The late-season damage to the Canadian wheat crop and to spring wheat in the U.S. also has contributed to a firm market situation. Ordinary spring wheat moved up 7¢ bu. in the month ending with early October, while higher protein lots moved up a smaller amount. At Kansas City hard winters gained up to 6¼¢ bu. in the same period.

End of Contract Balances Near

According to trade calculations, practically all users of hard winter wheat flour will reach the end of their contract balances before the end of October. These are the bookings that were made in early July, intended to take care of requirements for 90 to 120 days. Some of the contracts have been converted to spring wheat flour contracts at agreed-upon differentials. The purchases of springs probably are sufficient in most cases to provide the needs of buyers until December or beyond, except in the few instances where price-date-of-shipment procurement is being followed. Thus, the main flour market attention is once again focused on hard winters, and whether or not short term or p.d.s. buying will replace the forward booking method of procurement so generally followed thus far this crop year depends on the bakers' appraisal of market influences. Here is a summary of some of the happenings and situations which are in the price picture.

Supplies of Spring Wheat Reduced

Supplies of milling quality spring wheat are going to be more scarce than was expected early in the season. The U.S. Department of Agriculture in its September crop report estimated that spring wheat production would total 186 million bushels, a decline of 15.4 million from its August estimate. There were signs that the total probably declined even further during September. Because of serious black stem rust infection, leaf rust, drouth and excessively high temperatures, yields were greatly reduced and the quality of the crop suffered, particularly in test weight. Heavy rust, rain that delayed harvesting and freezing weather hit the Canadian spring wheat crop even harder, and the outturn there now is expected to fall to below 250 million bushels. This would be less than half the size of last year's crop. Also, a large portion—possibly as much as 60%—of the wheat is expected to be unsuitable for milling.

Export Outlook Still Uncertain

The Canadian crop, of course, has no direct bearing on supplies in the U.S., but because wheat from Canada is a major factor in world export trade, the lighter availability could affect export demand for U.S. wheat. The world wheat crop this year is estimated at some 5% below last year but well above average, and no huge gain in overseas demand is foreseen. A possibility of larger movement of wheat from the U.S. is seen in the surplus disposal bill passed by Congress which provides that farm goods in government stocks may be sold for foreign currencies. However, the entire export picture is quite cloudy at this time.

Price Support Total Above Year Ago

Proportionately, farmers are putting a much larger share of their 1953 wheat under government price support loan than they did last year. Through Aug. 15, a total of 127 million bushels had been removed from the market through this device, about 9 million more than was pledged on the same date last year. Because of the considerably smaller crop this year, the percentage of the total crop already under loan is a great deal higher than it was this early in the crop year last year. Farmers have not been anxious to redeem their loans even in instances where market prices for some types have exceeded the loan value, as apparently the price bolstering effect noted so far has given them confidence that prices could very well go higher.

Planting of 1955 Crop Delayed

The planting period for hard winter wheat in the Southwest once again is causing a lot of headaches among producers because of delays resulting from the prolonged drouth. In early October seeding in Kansas was reported to be 56% completed, with planting about completed in Nebraska. However, work was practically at a standstill in Oklahoma and Texas. A big question, one prominent crop reporter said, is whether or not there is sufficient vegetative cover on much of the land in the Great Plains to protect the soil from blowing next spring. It may be recalled that some timely rains checked soil blowing in important areas of the Southwest last year but that a lot of the wheat crop was literally blown out.

Next Crop to Get Lower Support Rate

Next year's wheat crop will be supported at 82½% of parity rather than 90% of parity as in the past because of the new flexible price support law enacted by Congress. This will result in a support level of not less than $2.06, compared with $2.24 bu. on the 1954 crop. The rate could go higher if parity advances. In the designated non-commercial wheat area wheat will be supported at 75% of the full support level. Supplies—including the huge holdings of the Commodity Credit Corp.—are so large that support would have dropped to 75% of parity if it were not for the minimum established for the 1955 crop only of 82½% of parity.

—BREAD IS THE STAFF OF LIFE—



Market Editor

George L. Gates

Summary of Flour Quotations

Oct. 2 flour quotations, in sacks of 100 lb. All quotations on basis of carload lots, prompt delivery:

	Chicago	Mpls.	Kans. City	‡St. Louis	Buffalo
Spring top patent	6.73@7.10	...@ ...	...@ ...	...@ ...	...@ ...
Spring high gluten	...@ ...	7.21@7.24	...@ ...	...@ ...	7.85@7.96
Spring short	...@ ...	6.76@6.79	...@ ...	...@7.20	7.39@7.51
Spring standard	6.63@6.95	6.66@6.71	...@ ...	...@7.10	7.34@7.41
Spring first clear	5.10@6.50	6.06@6.51	...@ ...	...@6.90	6.58@6.76
Hard winter short	6.35@6.56	...@ ...	6.35@6.40	...@6.55	7.22@7.26
Hard winter standard	6.25@6.51	...@ ...	6.25@6.30	...@6.40	7.06@7.12
Hard winter first clear	5.05@5.25	...@ ...	4.85@4.90	...@5.65	...@6.76
Soft winter short patent	6.95@7.17	...@ ...	...@ ...	...@ ...	7.71@7.74
Soft winter standard	6.40@6.33	...@ ...	...@ ...	...@ ...	7.01@7.19
Soft winter straight	...@ ...	...@ ...	...@ ...	...@5.40	5.76@5.95
Soft winter first clear	...@5.06	...@ ...	...@ ...	...@5.00	5.26@5.40
Rye flour, white	4.97@5.12	...@4.85	...@ ...	...@5.43	5.70@5.75
Rye flour, dark	3.90@4.37	...@4.10	...@ ...	...@4.68	4.95@5.00

	New York	Phila.	Boston	Pittsburgh	*New Orl.
Spring high gluten	7.80@7.89	7.80@7.90	7.85@7.95	7.65@7.91	...@ ...
Spring short	...@ ...	7.30@7.40	7.40@7.50	7.20@7.48	...@ ...
Spring standard	7.25@7.35	7.25@7.35	7.30@7.40	7.10@7.38	...@ ...
Spring first clear	6.70@7.00	6.85@7.00	6.72@6.97	6.58@7.06	...@ ...
Hard winter short	7.08@7.20	6.95@7.10	7.04@7.16	6.88@7.10	...@ ...
Hard winter standard	6.98@7.10	6.85@7.00	6.84@6.96	6.73@6.95	...@ ...
Soft winter straight	5.40@5.70	...@ ...	5.37@5.82	...@ ...	...@ ...
Rye flour, white	5.55@5.65	5.50@5.60	...@ ...	...@ ...	...@ ...

*100-lb. papers. ‡Bakery wheat flour in 100-lb. papers.

Stock Market Picture

THE NEW YORK STOCK EXCHANGE

Quotations on baking and allied stocks listed on the New York Stock Exchange:

	1954 High	1954 Low	Sept. 27, 1954 Close	Oct. 1, 1954 Close
Cont. Baking Co...	23½	20¾	23¼	22¾
Pfd. $5.50	99	90½	98½	99
Corn Prod. Ref. Co.	84	71¼	84	82⅜
Pfd. $7	183	174½	...	183
Gen. Baking Co. ..	11	9⅜	9¾	9⅞
Pfd. $8	148½	135⅝	136½	137
Gen. Foods Corp. .	80¼	56⅜	73⅞	73¼
Gen. Mills, Inc. ..	70⅞	66¼	68	68
Merck & Co.	22	17¾	19⅜	19⅛
Pfd. $4	106¾	98	106	105½
Natl. Biscuit Co...	43¼	36¼	41	40⅝
Pfd. $7	180	180	180	180
Pillsbury M., Inc...	47¼	35	42¼	42½
Procter & Gamble.	96½	68	90½	92¾
St. Regis Paper Co.	33¼	20⅛	33⅛	33¼
Std. Brands, Inc...	36⅞	28⅛	36½	36¼
Sterling Drug	44⅝	36⅛	42¾	43
Pfd. $3.50	97⅞	91¼	95	...
Sunsh. Bisc., Inc...	82¼	71¾	81½	80½
United Biscuit of America	40	27	27⅞	27¾
Ward Baking Co...	24⅝	19⅞	22½	21¾

Stocks not traded:

	Bid	Asked
Cream of Wheat	28⅛	28⅝
Gen. Mills, Inc., 3⅝% Pfd...	136	142
Gen. Mills, Inc., 5% Pfd. ...	128¼	124
Merck & Co., $3.50 Pfd.....	90⅝	91½
Pillsbury Mills, Inc., $4 Pfd.	101½	103½
St. Regis Paper, $4.40 Pfd..	102	103
Sterling Drug, $3.50 Pfd. ..	95	95¾
United Biscuit of America, $4.50 Pfd.	105	106
Ward Baking Co., $5.50 Pfd.	104	105

THE AMERICAN STOCK EXCHANGE

Quotations on baking and allied stocks listed on the American Stock Exchange:

	1954 High	1954 Low	Sept. 27, 1954 Close	Oct. 1, 1954 Close
Barry Bisc. Corp. .	4⅜	2¾	4¼	4⅜
Great A&P Tea Co.	140½	132	139	139⅞
Horn & Hardart Corp. of N. Y...	22⅛	18	20	20
Pfd. $8	138	138	138	138

Stocks not traded:

	Bid	Asked
Great A&P Tea Co., $5 Pfd.	197	200
Hathaway Bak. Inc., "A"...	6⅛	6¼
Horn & Hardart Corp. of N. Y., $5 Pfd.	103¼	105
Omar, Inc.	17¼	18
Wagner Baking Co.	5⅝	5⅞
Wagner Baking Co., Pfd. ...	108	109½
Ward Baking Co., Warrants	7¾	8½

CANADIAN STOCKS

	1954 High	1954 Low	Sept. 17, 1954 Close	Sept. 24, 1954 Close
Canada Bread	3.40	2.75	3.40	3.25
Pfd. B	53	46	51¾	53
Catelli Food, A ...	22⅜	13	21½	21⅜
B	32½	20	31	32½
Cons. Bakeries ...	8¼	6¼	8¼	8
Gen. Bakeries	7¼	5	7	7
Int. Milling, Pfd...	92	80½	92	86
Weston, George ...	51	34½	47	50
Pfd. 4½%	103	95½	102½	102¾

Closing bid and asked prices on stocks not traded:

	Bid	Asked
Canadian Bakeries	10½	10⅝
Canadian Food Products, A.	4	5⅜
Inter City Bakeries	13	14
McCabe Grain, B	16	20
Standard Brands	35¼	35½

—BREAD IS THE STAFF OF LIFE—

SCHOETTLE COMPANY SOLD

PHILADELPHIA—Heirs of Edwin J. Schoettle, Philadelphia, have relinquished their interests in the Edwin J. Schoettle Co., fo'ding box manufacturer, and its subsidiaries, it was announced by Douglas T. Neale, president of the company. Ownership was acquired by Mr. Neale and principals of United Container Co., Kardon Box Co., and Philadelphia Container Co., all of Philadelphia. The deal involved about $3,000,000. Douglas T. Neale will continue as president of the company.

National Starch Merger With Clinton Foods Unit Seen

Frank Greenwall, president of National Starch Products, Inc., and Richard Moss, chairman of the board of Clinton Foods, Inc., in a joint statement confirmed that discussions are taking place looking to a merger of the Corn Processing Division of Clinton Foods with National Starch Products. No final agreement has been reached.

—BREAD IS THE STAFF OF LIFE—

Chicago Metallic Opens Cleveland Subsidiary

CHICAGO—Jerome H. Debs, president of Chicago Metallic Manufacturing Co., has announced the opening of its new subsidiary, Pan Coatings, Inc., at 11102 Avon Road, Cleveland 5, Ohio, for pan glazing and cleaning services in the Ohio area and adjoining territory.

The new subsidiary has taken over the equipment and plant of Clevecote, Inc., which formerly operated from the above address. Earl W. Hamilton, who is well known among bakery operators in the area, will be in charge of this new operation.

James Nolan, vice president and general manager of Pan Coatings, Inc., Chicago, will maintain a close liaison with and supervision over the new Ohio branch operation.

—BREAD IS THE STAFF OF LIFE—

Negotiations Continued By Carr-Consolidated

SCRANTON, PA. — Trustees for the Carr-Consolidated Biscuit Co. filed a supplemental report with federal court in Scranton, Pa., and were granted permission by Judge Albert L. Watson to distribute a similar report to the firm's 3,000 creditors and stockholders.

The trustees reported that while all previous efforts to establish a plan of reorganization for the concern have proved fruitless, negotiations now are pending with "several interested parties" toward filing a plan of reorganization which the trustees could properly submit.

If the pending plans fail to prove workable, the report said, the trustees will have no alternative but "reluctantly to file a report that a p'an or reorganization can not be effected."

—BREAD IS THE STAFF OF LIFE—

Olin Mathieson Chemical Corp. Names Officers

NEW YORK—Election of the following officers of Olin Mathieson Chemical Corp., formed Aug. 31 by the merger of Olin Industries, Inc., and Mathieson Chemical Corp., was announced by John M. Olin, chairman of the board, and Thomas S. Nichols, president.

The officers elected were all formerly associated with one or the other of the predecessor companies.

—BREAD IS THE STAFF OF LIFE—

TAKES PRODUCTION POST

WINNIPEG—George L. Strayer has been appointed supervisor of production for all plants of General Bakeries, Ltd., in Canada. Mr. Strayer is known to the bakery industry in both Canada and the U. S. and has wide experience in the executive field specializing in bakery production.

Minnesota Allied Trades Name R. M. Bates President

MINNEAPOLIS — The first meeting of the fall season for the Minnesota Allied Trades of the Baking Industry was also the election meeting for the year, with R. M. Bates, Rapinwax Paper Co., accepting the presidency succeeding M. J. Swanson, Red Star Yeast & Products Co.

Frank W. Cooley, Jr., editor of The American Baker, was elected vice president, and E. E. Hoelscher, Standard Brands, Inc., was reelected secretary-treasurer. The office of assistant secretary-treasurer was left vacant for the year.

Directors of the organization, in addition to Mr. Swanson, are A. E. Grawert, Pillsbury Mills, Inc.; Kenneth Maas, Maas-Keefe Co., St. Paul, and John S. Hansen, General Mills, Inc.

Committee positions were filled by Mr. Swanson, auditing; Mr. Cooley, publicity; Mr. Hansen, program, and Carl E. Swanson, Booth Cold Storage Co., attendance. The annual Bosses Night will have Mr. Swanson and L. C. Bolvig, Procter & Gamble Co., as co-chairmen, and W. E. Lingren, The American Baker, Minneapolis.

J. M. Long, representative of the bakers' associations, announced four regional meetings for bakers throughout the state. Dates and p'aces are: Oct. 26, Fargo, Elks Club; Oct. 28, Duluth, Hotel Duluth; Nov. 3, Mankato, Saulpaugh Hotel, and Nov. 4, St. Cloud, St. Cloud Hotel.

The next meeting of the Minnesota Allied Trades of the Baking Industry was moved up one week, to Oct. 22, with the site to be announced later.

—BREAD IS THE STAFF OF LIFE—

Miami Bakers' Group to Adopt Charter, By-Laws

MIAMI—At the September meeting of the Greater Miami Bakers Assn. plans were made to draw up a charter and by-laws. Since the organization of the association more than a year ago, it has been operating on a temporary basis. Jodean Cash, president, Fuchs Baking Co., South Miami, is chairman of the committee on by-laws and charter.

At the next meeting the charter will be adopted and permanent officers elected.

—BREAD IS THE STAFF OF LIFE—

St. Louis Group Discusses Stable Ferment Process

ST. LOUIS—The Greater St. Louis Bakery Production Club met in the West Victorian Club Sept. 20 after a summer recess of two months, to begin the fourth year of the club. The meeting was called to order by the new president, Gus Risse, Kroger Co.

The principal speaker of the evening was M. J. Swortfiguer, special representative of the American Dry Milk Institute, whose subject was "The ADMI Stable Ferment Process."

Mr. Swortfiguer said that the ADMI ferment made a good, uniform and soft thin crust loaf of bread. He also said it had a close silky texture and "one of the big advantages of this type of ferment is the saving of floor space and the fact that it could be held over at a temperature of 55° for 36 hours." He also said that after three to four days this bread would be soft and still seem fresh. An open discussion followed.



ST. LOUIS ELECTION—New officers of the Greater St. Louis Bakery Production Club are shown above at the group's first fall meeting. Left to right are Fred Meyer, Anheuser-Busch, Inc., second vice president; William Nenninger, Bettendorf, Inc., first vice president; Gus Risse, the Kroger Co., president, and Peter O'Hara, American Cone & Pretzel Co., third vice president. Not shown are Paul Harding, Ellerbrock Bakeries, treasurer, and Fred Callicotte, Waxide Paper Co., secretary.



MINNESOTA ALLIED OFFICERS — A new slate of officers was installed by the Minnesota Allied Trades of the Baking Industry at the first fall meeting in Minneapolis recently. Left to right, front row, are E. E. Hoelscher, Standard Brands, Inc., secretary-treasurer; R. M. Bates, Rapinwax Paper Co., president, and Frank W. Cooley, Jr., The American Baker, vice president. Rear row, left to right: A. E. Grawert, Pillsbury Mills, Inc., director; M. J. Swanson, Red Star Yeast & Products Co., retiring president and director, and Kenneth Maas, Maas-Keefe Co., St. Paul, a director. John S. Hansen, General Mills, Inc., also a director, was not present when the picture was taken.



CHAMPION—Harry W. Zinsmaster, (left) president, Zinsmaster Baking Co., Minneapolis, St. Paul and Duluth, presents the Zinsmaster State Fair Bread trophy to Mrs. F. L. Hansberger, Dawson, Minn., sweepstakes winner in the home activities competition for the Minnesota State Fair. Mrs. Hansberger baked the best loaf of white bread in State Fair competition for 1954. The Zinsmaster trophy is a yearly award inspired by Zinsmaster's new old-fashioned, home ingredients, State Fair Bread. Watching at the right is F. L. Hansberger.



AT LAKE MICHIGAN MEETING — During the second business session of the Lake Michigan States Bakers Conference, on wholesale bakery problems, representatives of the Inter-Industry Bakery Package Committee spoke on the value to the baker of package size standardization. Left to right above are Merrill Maughan, executive secretary of the group; James Phillips, Folding Paper Box Assn.; Earl Hopping, Indiana Retail Grocers Assn.; Frank W. Cooley, Jr., editor of The American Baker; Victor E. Marx, American Society of Bakery Engineers, and Charles J. Regan, Interstate Bakeries Corp.

Lake Michigan Bakers Conference Combines Business and Vacation

FRENCH LICK, IND.—Social activities shared the spotlight with business sessions for retail and wholesale bakers during the three-day meeting of the Lake Michigan State Bakers conference here Sept. 12-15.

The first morning of the convention proper was devoted to the retail bakers session, with Joseph Vann, Vanns Pastries Shops, Milwaukee, vice president, Wisconsin Retail Bakers Assn., as session chairman. One of the featured speakers on the program was B. E. Godde, past president of the Associated Retail Bakers of America, who told of his efforts throughout the retail baking industry over the past few months to weld the retailers into a closer, more efficient group.

Together with close cooperation at all levels of retail baking, Mr. Godde urged a constant striving for the improvement of quality in bakery foods, better housekeeping in retail shops, and a more efficient application of better business methods to the entire operation of the bakery.

Later in the morning program, Lester Magee, Jean's Pastry Shop, Lexington, Ky., gave several valuable hints on efficient operation of a retail bakery through quality consciousness and extensive advertising.

He pointed out that advertising does little good unless the quality of the product advertised is actually better than the advertising says it is.

A capacity crowd at the evening session in the French Lick Springs Hotel ballroom featured Mrs. W. C. Eastham, who received close attention during her description of life behind the "Iron Curtain."

The Indiana Bakers Assn. was observing its 50th anniversary at the convention, according to Charles Ehlers, secretary of the Indiana association and master of ceremonies. Others introduced at the session included M. B. McClelland, secretary of the Illinois Bakers Assn., Fred Laufenburg, secretary of the Wisconsin Bakers Assn., and Mrs. Laufenburg, and Mr. and Mrs. Vann. Also introduced were Thomas Gilchrist, Sweetheart Bakeries, Indianapolis, vice president of the Indiana Bakers Assn., and Jack Thatcher, Master Baking Co., Mt. Vernon, president of the Illinois Bakers Assn, and Mrs. Thatcher.

Mr. Laufenburg opened the wholesale business session the following morning and introduced the first speaker, Rex Paxton, Southerland Paper Co., who spoke on "How Good You Want Your Association to Be?"

"No man walks alone today," Mr. Paxton said. "There are just some things you can't do alone." He listed as very important accomplishments of the trade association the arrangement of proper contracts, the benefits of group actions against shady competition and in dealings with the government and also pointed out that the convention is a fine place for social contacts between industry representatives where they may "talk shop" and learn new things for better profit.

"People do not buy enough automatically to sustain prosperity—they must be sold," Mr. Paxton pointed out. He called to the bakers' attention the fact that although 11,000 new residents are born every day they are not automatically customers.

Mr. Paxton pointed out that a favorable public climate is engendered by trade associations and said that he "would hate to be in a business that did not have a trade association."

Packaging Panel

A panel composed of members of the Inter-Industry Bakery Package Committee was a feature of the wholesale session. The panel included Earl Hopping, president of the Indiana Retail Grocers Assn. and a representative of the National Association of Retail Grocers; Frank W. Cooley, Jr., editor of The American Baker magazine; Victor E. Marx, secretary of the American Society of Bakery Engineers; James E. Phillips, chairman of the Midwest Bakery Package Group; and Charles J. Regan, director of public relations for the Interstate Bakery Corp.

Mr. Hopping stated that the help of the baking industry is needed to develop ways for retailers to continue to give bakers the shelf space they need. If packages are more uniform in size it would help retailers a lot, he pointed out, emphasizing that the grocery associations favor simplification and standardization.

Saying that bakery foods carry good mark-ups, cause the retailer little trouble and move quickly, Mr. Hopping pointed out that thinking retail grocers are well aware of the profit potential in a well-operated bakery department. He said that the fight for adequate shelf space in aggressive markets poses a growing problem for all manufacturers, and pointed out that packaging in general in the baking industry is not well thought out. He recommended that retailers in grocery stores would benefit by less bulky and more efficiently designed packages.

Mr. Cooley pointed out that the entire bakery package committee has borne in mind that all improvements in packaging shou'd directly help the baking industry and benefit the baker directly through greater sales and greater profit. He said that better eye appeal and better designed packages would increase sales and that lower cost containers with increased sales would make higher profits.

"Every survey in the baking merchandising field since the war," Mr. Cooley said, "in retail bakery or supermarket, has shown improved packaging has improved sales through increased impulse buying alone.

"Container standardization should make things easier for the production department, the delivery man, the clerks and the other people who have to handle your product and a package around it before the consumer ever sees the product. It means more time for sales, a better looking product to sell, and in the end better sales.

"Your share of those impulse sales will be greater if your products appeal to the visual senses," he said. "Remember the housewife has got to get the package home before taste appeal takes over—it is eye appeal that gets your product into her home, her money into your books."

Mr. Regan made three points to bear out his contention that the baker would not lose individuality of packaging through the adoption of standard sizes.

Profits and Progress

He said that in order to secure individuality, the best way is from the standpoint of profits and progress. The baker can secure this much desired individuality more successfully through distinctive design on a standardized package than through an odd-shaped package.

"The baking industry for a long time has been working against itself in attempting to get individuality because we've been using a multitude of odd shaped packages which have not been attractive to the consumer or pleasing to retail store outlets," Mr. Regan said.

He also pointed out that the larger the number of varieties, the greater the stale percentage because of the inability of controlling stales. He said that fewer sizes of packages would mean a tremendous advantage to all bakers in the matter of inventory cost control.

Standardization Favored

Mr. Phillips mentioned that the package maker will manufacture any size and style of bakery package the baker wants within the limitations of equipment, but he said that package makers favor standardization of package sizes because they see it as a chance to do a better job of servicing bakers. They visualize definite possibilities of increased bakery products sales and increased package sales through such a program. Another important item to consider in the reduction of the number of package sizes is cost, Mr. Phillips said. "If the baker is in the habit of using several different sized packages for one product such as hamburger buns, he pays a premium for the lesser quantity of each size he buys."

Mr. Marx reviewed displays at the American Society of Bakery Engineers meeting which showed that there is a wide variation in package sizes for different items within the same bakery, and said that a reduction in the number of such sizes for all the items produced by one baker would effect savings in a production department in addition to the savings that would be effective on the part of carton manufacturers in the making of a smaller number of sizes.

Baker Will Benefit

Mr. Marx pointed out that inventory, wrapping machine operator time, over-wrap settings, waste in over-wrap, shipping and handling and storage difficulties were only a few of the many benefits the baker would gain through standardization.

John A. O'Leary, executive secretary of the Chicago Bakery Employers Labor Council, spoke on negotiated health and welfare plans.

He said that a health and welfare program to satisfy a union demand similar to the Chicago settlement would represent a payroll cost of 5 to 6%. He emphasized that a consultant in insurance not connected with any insurance company would prove of great benefit in economically setting up such a program. He said that loopholes and hidden clauses in several programs he saw would have cost the instituting group as

(Continued on page 60)

AIB Stand on Vitamin D Use In Bread Backed by Study

CHICAGO—The stand of the scientific advisory committee of the American Institute of Baking on vitamin D fortification of bread has been substantiated by a report of the Food and Nutrition Board of the National Research Council. The statement of the board confirms the scientific advisory committee's view that the use of vitamin D in bread, at the present time, contributes little to the nutritional welfare of the American public.

A special bulletin of the AIB issued in the spring of 1953 (The American Baker, May, 1953) explained that the trend toward "extravagant claims" for the vitamin D fortification of bread was being viewed with alarm by food regulatory agencies, nutritionists and the staff of the AIB.

The AIB bulletin recommended that the baking industry refrain from using the prerogative to add vitamin D to bread since bread is not considered the best possible vehicle for this nutrient, or if it is used, to use a minimum quantity.

This recommendation was challenged and as a result the AIB requested the opinion of the Food and Nutrition Board of the National Research Council. The board adopted the following statement recently, following its study:

"The board has recognized vitamin D and calcium as optionally added ingredients in enriched flour and bread since the early hearings on enrichment of flour. Sunshine plays an important role in supplying vitamin D, but natural foods contain little of this vitamin. For this reason, its addition to certain staple foods is important in preventing rickets. It is generally recognized that milk is the most logical vehicle for carrying vitamin D. However, it is fortunate that food technology has demonstrated that other foods, especially bread, can be used as an effective vehicle and that such foods can be enlisted when and if it becomes necessary to do so. Since milk, including fluid, evaporated, and special milk formulae, as a carrier of vitamin D has been so successful in reducing the incidence of rickets in this country and since there is no indication of an increase in rickets—in fact, there seems to be a continuing decrease—the board believes it is unnecessary at the present time to call upon bread to aid in the correction of deficiencies of vitamin D in the general population or significant segments of the population."

——BREAD IS THE STAFF OF LIFE——

Chicago Production Club Discusses Ferments

CHICAGO—The first meeting of the season for the Chicago Bakery Production Club was held the evening of Sept. 14 at the Midland Hotel. Around 80 members and guests attended to hear William Walmsley, principal emeritus of the American Institute of Baking, Chicago, tell more about the stable ferment process.

Mr. Walmsley, in his discussion of the process, employed a model of a ferment tank, used charts, and called on Mrs. Walmsley to help him make the presentation. He outlined the requirements for achieving a uniform result in the use of the process.

The next meeting of the group will be Oct. 12, when a representative of the Humko Co. will present "Shortening—Past and Present."

——BREAD IS THE STAFF OF LIFE——

GENERAL DIVIDEND

NEW YORK—George L. Morrison, president of General Baking Co., has announced a dividend of 15¢ per share on the shares of common stock payable Nov. 1, 1954 to the holders of record Oct. 15, 1954. At the June 16, 1954 meeting, the directors declared a regular dividend of $2 per share on the preferred stock payable Oct. 1, 1954 to the stockholders of record Sept. 17, 1954.



QUICK-FROZEN BREAD—Racks of bread being quick-frozen at 20° below zero in the quick-freezing room of the new refrigeration and storage plant now in full operation at Arnold Bakers, Inc., Port Chester, N. Y. The bread is frozen shortly after being baked. The bread is put into the quick-freezing room within four to six hours after being baked, normally cooled, and packaged in tightly sealed double wrappers. After being quick-frozen at 20° below zero, individual bread loaves are packed into cartons and stored at 0°F. to await shipment.

Arnold Bread Freezing, Storage Plant in Full Scale Operation

PORT CHESTER, N. Y.—Full scale operation of the new bread freezing and storage plant of Arnold Bakers, Inc., Port Chester, N. Y. is announced by Paul Dean Arnold, president. With its new plant, said to be the first refrigeration plant designed specifically for bread products, Arnold plans eventual expansion of sales to those parts of the country where premium bread products are not now generally available to consumers.

Since it pioneered in the sale of quick-frozen bread on a commercial scale more than a year ago, Arnold has been using public facilities in another city for refrigeration and storage of its frozen products. "Now that we have our own refrigeration plant," Mr. Arnold said, "we will be able to freeze bread at the peak of its freshness, only minutes away from the oven. Also, since we can stockpile our full line in the refrigerated storage space right at the bakery, we will be able to give faster and better service to our distributors, especially on those items where the demand fluctuates widely."

After normal cooling and wrapping, the individual bread loaves are placed on racks, which are then wheeled into the freezing room. There, the bread is quickly frozen at -15° to -20°F. The racks are then moved to the packing room where the frozen bread loaves are put into cartons. From there the cartons are taken to the storage room where the frozen bread is kept at zero F. until it is shipped in refrigerated trucks to Arnold distributors in cities beyond a 400-mile radius of Port Chester. (Within the 400-mile radius, Arnold's distributors generally do not sell the frozen products.)

The new plant cost approximately $110,000 and covers nearly 9,000 sq. ft. It provides nearly 12,000 cu. ft. of refrigerated storage space, in addition to the quick-freezing room, the packing room, a truck bay, the compressor room and space for possible expansion later.

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M. D. Mullin Don H. Hays J. W. Cotton

CORN PRODUCTS CHANGES—W. H. Gamble, president, Corn Products Sales Co., has announced several changes in the company's branch-office management. M. D. Mullin, transferred from Chicago, has been made branch manager of the Milwaukee Office. Don H. Hays, in charge of the Louisville territory since 1946, has been transferred to St. Louis as branch manager. Succeeding Mr. Hays as manager of the Louisville Office, is J. W. Cotton. Mr. Mullin joined the company in 1934 as a retail package salesman in Wisconsin. He moved to Chicago in 1939. A few years later he became staff assistant to R. R. Adam, vice president in charge of the central division. Mr. Hays joined Corn Products in 1932 with the company's Detroit Office, and in 1936 became a retail salesman in Grand Rapids. Later in the same year he was transferred to Indianapolis as assistant branch manager and, in 1946, was appointed branch manager at Louisville. Mr. Cotton started his career with the firm in 1936. Shortly after he returned from Army service in 1946, he was made district representative at Grand Rapids. In 1952 he came to Chicago as a staff assistant to R. R. Adam, vice president in charge of the central division.

Chicago Bakers, Allieds Sponsor Orphan's Outing

CHICAGO—Bakers and representatives of the allied trades of the baking industry sponsored an "orphans outing" at Kiddytown Park, 4250 N. Harlem Ave., Chicago, Sept. 18. Many of the executives and other personnel from the firms joined in entertaining over 200 orphans, who were being treated to a day of fun.

These men of industry made sandwiches and served bakery products such as pie, cake and pastries, along with milk, to the children. All these products were supplied by the club members. Charter buses called for the children.

The Church Federation of Greater Chicago, the Salvation Army, the Jewish Children's Bureau, and the Catholic Youth Organization cooperated to make it possible for the baking industry representatives to entertain these deserving children. The Bakers Club of Chicago sponsored the outing on behalf of the baking industry.

Who Punched What?

LOUISVILLE—A sidewalk slugfest between truck drivers from two competing bakeries led to $5 fines for each in Louisville municipal court recently. The fight occurred, police said, when one driver accused the other of punching holes in the wrappers of bread he delivered. Arrested for disorderly conduct, the two paid their fines and walked out of the court room after shaking hands.

Formulas for Profit

It's Time for Baked Products With Apples

Do you want to increase your fall sales of baked products with apples? Here are positive guides for producing extra revenue and extra profits by featuring apple baked foods:

1. Make only quality products, such as those made from formula suggestions in this department.

2. Make a variety of products—the customer wants to choose. However, put your promotion emphasis on one—perhaps two—of these products at one time.

3. Set up and coordinate "apple time" displays and advertising. Build a neat window display with fresh, red apples in the center. Instruct your sales staff on the goodness of apple baked products so that they can sell them intelligently to the customer.

APPLE DATE BREAD

Make a dough using the following ingredients:
- 12 oz. sugar (sucrose or dextrose)
- 5 oz. malt
- 10 oz. shortening
- 1 lb. milk solids (non fat)
- 8 oz. salt
- 10 oz. yeast
- 2 oz. yeast food
- 13 lb. water (variable)
- 20 lb. bread flour

When about ⅞ mixed, add:
- 4 lb. 8 oz. chopped dates
- 5 lb. diced apples

Dough temperature 80° F. First punch about 2 hours, 30 min. Second punch, 1 hour. To the bench 15 minutes later. Scale and round up. Allow about 10 to 15 min. intermediate proof. Make up and then proof. Bake at about 420°F.

Note: Fresh apples are most suitable for making this bread.

APPLE MERINGUE PIES

Bring to a boil:
- 4 lb. apple sauce
- 1 lb. water
- 1 lb. 8 oz. granulated sugar
- ¾ oz. salt
- ¼ oz. cinnamon

Mix together, add and cook until smooth:
- 4 oz. cornstarch
- 8 oz. water
- 8 oz. egg yolks

Then stir in:
- 6 oz. shortening or butter
- Lemon juice to suit taste

Pour into baked shells. When cool, cover with meringue. Sprinkle a small amount of cinnamon on top and then brown at about 390-400° F.

APPLE RUM CAKES

Cream together to dissolve the sugar:
- 2 lb. 8 oz. brown sugar
- 1 oz. cinnamon
- 1 lb. 4 oz. whole eggs

Then mix in thoroughly:
- 1 lb. shortening
- 4 oz. butter

Add and mix in:
- 8 oz. malt
- 8 oz. molasses
- 8 oz. honey
- 2 lb. apple sauce
- ¾ oz. soda
- 1 oz. salt

Sift together, add and mix in until smooth:
- 1 lb. 12 oz. cake flour
- 1 lb. 6 oz. bread flour
- 1 oz. baking powder

Deposit into loaf cake pans that have been well greased. Bake at about 350° F. After the cakes are baked and cooled, turn them over and brush them over heavily with the following rum syrup:

Bring to a boil:
- 2 lb. granulated sugar
- 1 lb. water

Allow to cool somewhat and then add:
- Rum flavor to suit

After the cakes have been brushed over, pour a thin fondant icing over them. Place a few pecans or walnuts on top.

Note: It may be necessary to brush the cakes over with the rum syrup several times in order to thoroughly flavor them. Do not over bake the cakes, as hard sides and bottoms will tend to prevent penetration of the rum syrup. Instead of fondant icing, a thin water icing may be used to cover the cakes. Round angel food pans may be used instead of loaf cake pans.

APPLE SLICES

Make a dough as follows: Rub together thoroughly:
- 3 lb. 8 oz. pastry flour
- 12 oz. shortening
- ½ oz. salt

Then add into the above:
- 2 lb. 12 oz. puff paste oleomargarine which has been broken into pieces the size of a walnut

Rub together well, then add and mix in:
- 28 oz. cold water

Handle like pie crust. Roll out some of this dough about ¼ in. thick and cut into strips about 24 in. long and 5 in. wide. Place on greased pans. Then cut some strips about ½ in. wide and lay these on the border of the large strip after they have been washed with water to make them stick well. Inside of the narrow strips place sliced apples evenly. Over the apples, sprinkle lightly, a mixture of sugar, cinnamon and salt. Some raisins or currants may be added if desired. Then roll out some more dough about ⅛ in. thick and cut into strips about ⅜ x 8 in. Wash the border of the apple filled slice and place these strips about 1 in. apart, crossing them like you do for cranberry pies. Wash the tops with an egg wash and bake at about 400° F. After they are baked and cooled, cut into slices of desired size.

APPLE PEANUT BUTTER CAKE

Cream together for about 3 min.:
- 3 lb. cake flour
- 2 lb. peanut butter
- 1 lb. 12 oz. shortening (emulsifying type)

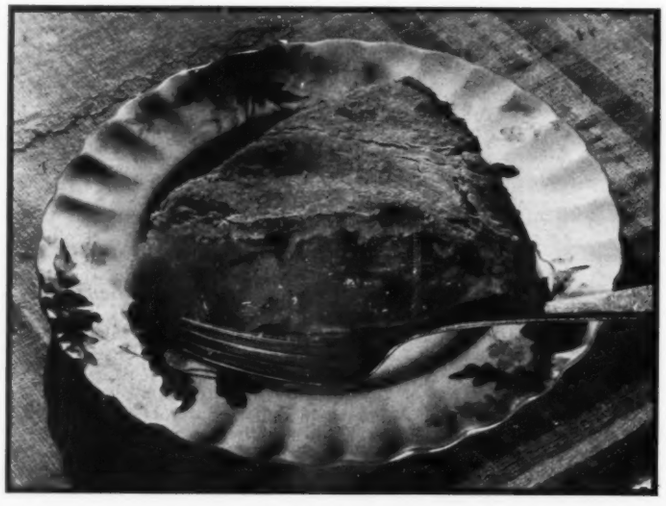
Sift together and add:
- 6 lb. granulated sugar
- 2 lb. bread flour
- 2½ oz. salt
- 3¾ oz. baking powder
- 1¼ oz. soda
- 1 oz. cinnamon
- ¼ oz. nutmeg

Then add and mix for about 3 min.:
- 4 lb. ground apples

Add and mix for about 3 min.:
- 3 lb. 4 oz. whole eggs

Mix in for about 5 min.:
- 2 lb. 8 oz. ground apples

Note: Scrape down the bowl and creaming arm several times during the mixing period.



Apple Pie

Deposit into layer cake pans of desired size and bake at about 360°F. When baked and cooled, fill and cover with the following icing:

Malted Milk Icing

Cream together:
- 10 oz. shortening
- 8 oz. butter
- 4 oz. malted milk powder
- ¼ oz. salt
- Vanilla to suit

Add:
- 1 lb. cocoa

Then stir in:
- 2 lb. milk

Sift, add and beat together until smooth:
- 7 lb. 8 oz. powdered sugar

The consistency of the icing may be controlled by increasing or decreasing the amount of powdered sugar.

BAVARIAN APPLE CAKES

Base for pan lining. Sift together:
- 3 lb. 14 oz. pastry flour
- 2½ oz. baking powder

Place this in a bowl and rub together the following ingredients:
- 6 oz. sugar
- 12 oz. shortening
- ½ oz. salt

Then add and mix smooth:
- 1 qt. milk
- 8 oz. yolks

Scale off into 6 oz. pieces and roll out similar to pie crust and line 8x1½ inch layer cake pans.

Fill the pans with the following mixture:
- 1 No. 10 can chopped apples
- 2 lb. 4 oz. sugar
- ⅛ oz. cinnamon
- ½ oz. salt
- 1 lb. seedless raisins
- 1 oz. butter
- 2 oz. tapioca (fine ground)

After the pans are filled, the edges of the bottom dough should be washed with egg wash and strips should be laid across the top, similar to the lattice work on cranberry pies.

Dough For Strips

Rub together:
- 3 lb. pastry flour
- 2 lb. shortening
- 1½ oz. salt

Add and mix in:
- 18 oz. cold water

Then wash the strips with an egg wash and bake at about 380°F. After baking, when cool, sift powdered sugar on the cakes.

Note: This product should be consumed within 24 hours for the best eating quality.

WHOLE WHEAT APPLE SAUCE CAKES

Cream together:
- 3 lb. brown sugar
- 1 lb. 8 oz. shortening
- 1 oz. soda
- ½ oz. cinnamon
- ¼ oz. cloves
- ¼ oz. mace
- 1 oz. salt
- Lemon flavor to suit

Add gradually:
- 10 oz. whole eggs

Then mix in:
- 2 lb. chopped nuts
- 3 lb. seedless raisins

Then add alternately:
- 3 lb. whole wheat flour
- 4 lb. 8 oz. apple sauce

Deposit into layer, loaf and cup

cake pans. Bake at about 370-375°F.

Note: If the apple sauce is sweetened, decrease the sugar in the formula the same amount that is contained in the apple sauce.

Boiled Icing

Boil to 242-244° F.
6 lb. granulated sugar
8-oz. invert sugar
1 lb. 8 oz. water
Then beat up:
1 qt. egg whites
A pinch of salt
A pinch of cream of tartar
While beating, add:
8 oz. powdered sugar

When stiff enough, add the boiled mass slowly and continue beating.
Then add:
1 lb. powdered sugar
Flavor to suit

APPLE-SAUCE CAKES

Mix together for 5 min. on second speed:
2 lb. cake flour
1 lb. 4 oz. shortening (emulsifying type)
Mix together, add and mix 5 min.:
3 lb. granulated sugar
12 oz. cake flour
¼ oz. cinnamon
1½ oz. baking powder
¾ oz. soda
1¾ oz. salt
A little lemon flavor
1 lb. 8 oz. ground apples
Then mix together, add slowly, and mix for 5 more minutes.
1 lb. 12 oz. whole eggs
2 lb. 12 oz. ground apples

Note: Scrape the bowl down a number of times during the mixing period to insure a smooth batter. Deposit into layer cake pans of desired size and bake at about 370° F. When baked and cooled, fill and ice the cakes with the following icing:

Molasses Icing

Heat to 228° F.
4 lb. 8 oz. sugar
2 lb. milk
12 oz. invert syrup
Allow this to cool. Then add and beat until light:
9 lb. powdered sugar
8 oz. butter
8 oz. shortening
⅛ oz. salt
12 oz. high grade molasses

FRENCH-APPLE CAKES

Cream together:
4 lb. granulated sugar
1 lb. 12 oz. shortening
1 oz. salt
Vanilla to suit
Sift together:
4 lb. 8 oz. high grade cake flour
1½ oz. baking powder
Add this alternately with:
2 lb. milk
Then mix in until light:
2 lb. 8 oz. whole eggs

Scale 16 oz. of dough into round pans 8 in. by 2 in. Spread the dough out evenly in the pans and then sprinkle the following mixture on top of them.

Apple Mixture

Grind fine:
4 lb. apples
Add and stir in thoroughly:
1 lb. sugar
⅛ oz. salt
Cinnamon to suit

Bake the cakes at 360° F. When baked and cool, sift powdered sugar over them. In case the apples are flat, the addition of a little citric or tartaric acid will improve the flavor. Some of these cakes may be covered with whipped cream, if desired, instead of powdered sugar. This makes an ideal combination.

FRENCH APPLE PIES

Bring to a boil:
1 lb. 8 oz. granulated sugar
½ pt. water
⅛ oz. cinnamon
⅛ oz. powdered lemon juice
⅛ oz. salt

Boil until a medium heavy syrup is formed.
Mix this with:
1 No. 10 can of solid pack sliced apples

Allow this to cool. Then place in unbaked pie shells and bake at about 425-450° F. When baked wash the apple filling with the following apricot glaze:
Boil to 226° F.:
1 No. 10 can apricots that have been rubbed through a sieve
5 lb. granulated sugar
8 oz. corn syrup
⅛ oz. salt

After washing, allow the pies to cool and then cover with whipped cream or meringue. Do not cover the whole top of the pies, but with a canvas bag and star tube draw criss cross lines. This will allow the filling to show up between the lines. When covering the pies with meringue place them in oven for a few minutes to brown the meringue.

Apple Pie Filling
(Evaporated Apples)

Soak overnight:
8 lb. evaporated apples in
13 qt. of cold water

Then drain the apples and grind them fine. Measure the water that is left over and add enough water to make 6 qt. Place the ground apples and the water on the stove and add:
10 lb. granulated sugar
2½ oz. salt
2½ oz. cinnamon
2 oz. powdered lemon juice
When the mixture starts to boil, mix together:
2 lb. granulated sugar
1 lb. tapioca or corn starch

Stir this into the boiling mixture until the filling thickens. Then remove from the fire and allow to cool.

Fresh Apple Pie Filling

Mix together:
25 lb. peeled and sliced apples
5 lb. granulated sugar

Place this in a wooden tub having some small holes in the bottom and allow the juice to drain for about six hours. Line pie tins with pie dough and fill with drained apples. Pyramid the apples toward the center. Wash the edge of the bottom crust and cover the apples with a top crust having a one-inch hole in the center.

While the pies are baking, bring to a boil the drained juice (about 4 qt.)
4 lb. sugar
1 oz. cinnamon
¼ oz. nutmeg
When boiling, stir in:
2 lb. sugar
1½ oz. salt
8 oz. starch
When thickened and clear, stir in:
6 oz. butter
Juice and grated rind of 3 lemons

After the pies are baked and have cooled for about 15 min., pour about 6 or 8 oz. of the hot syrup into each pie through the hole in the top crust. The juice can be put into the pies by using a funnel.

Note: The amount of sugar may be varied, depending upon sweetness desired.

In place of corn starch, 40 mesh tapioca may be used. The amount of thickener to use will depend upon the consistency of the syrup desired. The syrup should be poured into the pies while hot so that it will flow evenly throughout the pies.

Apple Pie Filling (Canned)

Drain the liquid from one No. 10 can solid pack apples. Add enough water to make one quart of liquid.
Place this on the stove and add:
1 lb. granulated sugar
¼ oz. cinnamon
1 oz. butter
Juice from one lemon
¼ oz. salt
Bring this to a boil and then add, stirring constantly and cook until clear:
8 oz. granulated sugar
3 oz. corn starch or tapioca

Remove from the fire and stir in the drained sliced apples. Allow to cool before using.

APPLE FLUFF CAKES

Cream together:
3 lb. brown sugar
1 lb. 4 oz. shortening
¾ oz. soda
1 oz. salt
¼ oz. cinnamon
⅛ oz. allspice
⅛ oz. nutmeg
Then add alternately and mix until smooth:
2 lb. 12 oz. cake flour
2 lb. buttermilk
Then add gradually:
1 lb. 4 oz. whole eggs
Add and mix in:
1 lb. 8 oz. chopped fresh apples or unsweetened canned apples. Juice and grated rind of one lemon

Deposit into layer and loaf cake pans of desired size. Bake at about 350-360° F. When baked and cooled, fill and cover the cakes with the following icing:

Caramel Icing

Cook to 228° F.:
2 lb. whole milk
5 oz. butter
4 lb. granulated sugar
8 oz. corn syrup
Remove from the fire and add:
1 lb. 8 oz. caramel syrup
Allow this to cool. Then add and mix until smooth:
4 lb. powdered sugar
4 oz. butter

Caramel Syrup

Cook to 325° F.
5 lb. granulated sugar
1 lb. corn syrup or invert syrup
1 qt. water

Then add gradually, stirring constantly 2 qt. whole milk. Allow this to cook back up to 220° F.
Remove from the fire and mix in:
8 oz. butter

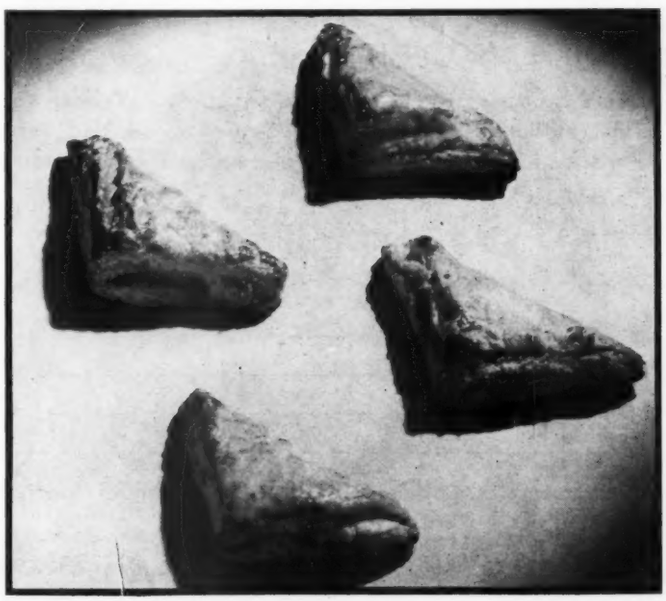
ROMAN APPLE CAKES

Cream together:
1 lb. 8 oz. brown sugar
3 lb. granulated sugar
1 lb. 8 oz. shortening
1½ oz. salt
¼ oz. cinnamon
1/16 oz. nutmeg
Add gradually:
12 oz. whole eggs
Mix together and add:
2 oz. soda
2 lb. milk
Sift together and mix in:
5 lb. 4 oz. cake flour
1 oz. baking powder
Then mix in:
1 No. 10 can medium chopped apples

Deposit into pans of desired size. Sprinkle a little cinnamon sugar on each cake and also about 1 oz. of pecans. Place in the oven and bake at about 360° F.

Note: Use solid pack apples. Sift

(Continued on page 53)



Apple Turnovers



A. J. Vander Voort

A. J. Vander Voort

. . . . technical editor, author of this monthly formula feature and conductor of the Bake Shop Trouble Shooter (see page 20) and the Do You Know feature (see page 22), is head of the School of Baking, Dunwoody Industrial Institute, Minneapolis.

THE BAKE SHOP TroubleShooter

Powdered Whole Eggs

I would like to have formulas for products, such as yellow cake, chocolate cake, cookies, rolls, etc., using powdered whole eggs. I would also like a pie crust mix using only butter.

Also, please give me any information you can on using and handling powdered eggs.

I have been a reader of The American Baker for quite some time and always enjoy reading your service for bakers. I have in the past used numerous formulas from your page and have always had good results from them.—M. H. K., Wash.

* *

I am giving you a formula for sweet roll dough, yellow layer cake, devil's food layer cakes, spice cakes, fruit drops, walnut honey cookies, and bran muffins as you requested.

I would like to state that dried whole eggs may be used in nearly all types of bakery products except where the eggs have to be beaten or in cream puffs and eclairs. In order to replace 1 lb. of whole eggs you can use 4 oz. of whole eggs powdered and 12 oz. of water. It has been my experience that it is not necessary to reconstitute powdered eggs.

You also asked for a pie dough formula in which all butter is used. As butter contains ½ oz. of salt per pound, replacing shortening with butter will undoubtedly make the pie dough too salty. Therefore, I would like to suggest that you use a formula such as the following:

10 lb. unbleached pastry flour
6 lb. butter
2 lb. shortening
3 lb. 6 oz.water

If the butter you intend to use does not contain any salt, then I would like to suggest that you replace the 6 lb. of butter and 2 lb. of shortening with 8 lb. 8 oz. butter and add 3 oz. of salt.

Butter contains about 80% fat, whereas shortening is 100% fat.

DEVIL'S FOOD LAYER CAKES

Mix together for about 7 min. on medium speed:
4 lb. 8 oz. granulated sugar
3 lb. cake flour
2 lb. 6 oz. shortening (emulsifying type)
8 oz. milk solids (non-fat)
1 oz. soda
2½ oz. salt
1 lb. powdered whole eggs
3 lb. water
Flavor to suit
Add and mix until smooth:
2 lb. 8 oz. water
Sift together and add:
2 lb. cake flour
1 lb. cocoa
4 oz. baking powder
Then add:
2 lb. 8 oz. water

Mixing time about 4 min. Deposit into pans of desired size and bake at about 370° F.

Note: Be sure to scrape the bowl and mixing arm down several times during the mixing period to insure a smooth batter.

FRUIT DROPS

Cream together:
1 lb. 8 oz. granulated sugar
1 lb. 2 oz. brown sugar
1 lb. 2 oz. shortening
¾ oz. salt
⅜ oz. cinnamon
4 oz. powdered eggs
Add gradually:
12 oz. water
Stir in:
12 oz. milk
Add:
2 lb. 8 oz. seedless raisins
1 lb. chopped dates
12 oz. diced mixed peel
8 oz. chopped glaced cherries
Sift together and fold in:
3 lb. 8 oz. pastry flour
¾ oz. baking powder

Drop out on greased and dusted pans. Bake at about 350° F.

WALNUT HONEY COOKIES

Cream together:
4 lb. granulated sugar
2 lb. 8 oz. shortening
¾ oz. soda
½ oz. ammonia
½ oz. nutmeg
4 oz. powdered eggs
Add:
1 pt. honey
Stir in:
12 oz. water
Mix together and incorporate:
2 lb. macaroon coconut
4 lb. 8 oz. cake flour
1 lb. fine chopped walnuts

These cookies should be cut out with a 2½ or 3 in. round cutter. Place on lightly greased pans. Wash with an egg wash and bake at 340° F.

SWEET ROLL DOUGH (Straight)

50 lb. flour
30 lb. water (variable)
8 oz. salt
9 lb. sugar
9 lb. shortening
4 lb. yeast
4 lb. milk solids (non-fat)
1 lb. 8 oz. powdered eggs

Dough temperature, 82° F. First punch, 1 hr. 15 min. approximately. To the bench, 10 min.

Procedure: Mix together shortening, sugar, salt, milk solids and powdered eggs. Dissolve the yeast in part of the water. Add the balance of the water to the mixed ingredients. Then add the flour. When partially mixed, add the yeast solution and mix until the dough is smooth. Do not overmix, as this toughens the dough.

YELLOW LAYER CAKE

Cream together for 5 min. on low speed:
5 lb. cake flour
2 lb. 12 oz. shortening (emulsifying type)
1 lb. 2 oz. powdered whole eggs.
Add and mix for 1 min.:
6 lb. granulated sugar
5 oz. baking powder
2¾ oz. salt
Add and mix for 4 min. on medium speed:
3 lb. water
Flavor to suit
Then add and mix for 5 min. on low speed:
4 lb. 4 oz. milk

Deposit into pans of desired size and bake at 375° F.

Note: Be sure to scrape the bowl and mixing arm down several times during the mixing period, to insure a smooth batter.

SPICE CAKE

Cream together for 3 min. on medium speed:
3 lb. cake flour
2 lb. 4 oz. shortening
Add:
6 lb. granulated sugar
2 lb. 4 oz. cake flour
12 oz. powdered whole eggs
3 oz. salt
½ oz. soda
2½ oz. baking powder
2 oz. cinnamon
½ oz. ginger
½ oz. allspice
¼ oz. nutmeg
Then add and mix for 4 min.:
3 lb. milk
2 lb. 4 oz. water
Add and mix for 3 min.:
1 lb. 8 oz. good molasses
2 lb. milk

Deposit into pans of desired size and bake at 370° F.

BRAN MUFFINS

Cream together:
1 lb. 12 oz. granulated sugar
1 lb. shortening
1½ oz. soda
1½ oz. salt
4 oz. powdered eggs
Add:
12 oz. water
Stir in:
1 qt. good molasses
Add:
4 lb. milk
Stir in:
1 lb. 8 oz. seedless raisins
Sieve together and add:
4 lb. 8 oz. bread flour
2½ oz. baking powder
Add and mix in:
1 lb. 8 oz. bran

Bake in greased cup cake or muffin pans at about 380° F.

Got a Problem?

Use this coupon to tell your troubles to A. J. Vander Voort, nationally known production authority, head of the Dunwoody Baking School, technical editor of The American Baker. He will answer and analyze production problems without cost to you:

_____

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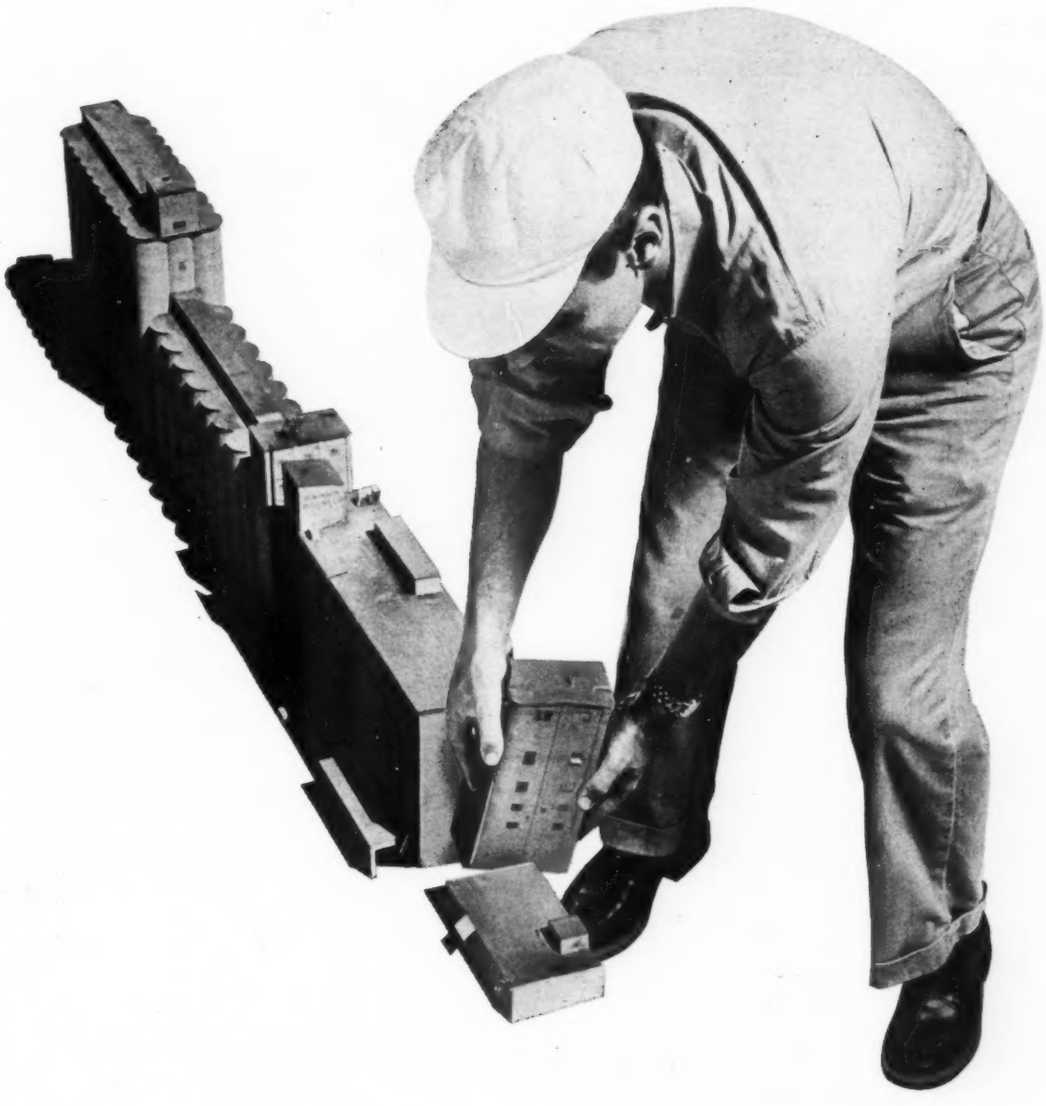
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(Send samples of baked foods to A. J. Vander Voort, Dunwoody Industrial Institute, Minneapolis.) Address letters to:

The American Baker, P.O. Box 67, Minneapolis 1, Minnesota



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Why not be sure . . . switch to Atkinson.

ATKINSON MILLING COMPANY MINNEAPOLIS, MINNESOTA

DO YOU KNOW . . . ?

Here's your chance to test your knowledge on a variety of subjects concerned with the baking industry. There are no encyclopedias for the bright boys, nor dunce caps either. When you have ticked off your answers, marking each statement TRUE or FALSE, turn to page 24 for a check against the correct statements. Each correct answer counts five points. A score of 70 is passing, 80 good, 90 very good.

1. Egg whites are used in the dough for making hard rolls as they improve the eating quality.

2. To make salt rising bread, the baker should make his own corn meal mush.

3. Replacing part of the hard wheat flour with a weaker flour such as a cake or pastry flour, will help to reduce excess oven spring in bread.

4. To obtain a lighter crust color on angel food cakes, 10% of the sugar should be replaced with dextrose (corn sugar).

5. When replacing shortening with butter in a formula, no adjustments are necessary.

6. To decrease the tendency for raisins to burn during the baking of raisin bread, it is a good procedure to soak them in a malt and water solution before adding them to the dough.

7. In order to produce a softer crust on white bread, the sugar and shortening shou'd be decreased somewhat in the dough.

8. French doughnuts have to be made by using a star tube and canvas bag and run out on greased cardboards or French doughnut screens.

9. When using corn starch in custard pies, it is a good idea to cook it with part of the milk and sugar before adding it to the filling.

10. When increasing the amount of milk solids in a bread dough, the baking temperature should be lowered.

11. If no cream of tartar is available when making angel food cakes, vinegar may be used to replace it.

12. The more age rye flour is given the better the flavor of the rye bread.

13. In order to obtain a crisp sugar cookie, about 25% of the sugar in the formula should be replaced by invert syrup.

14. Cream puff shells filled with hot custard cream will stay crispier than when filled with a cool or cold filling.

15. Modern formulas, used by bakers for pie crust, will contain about 55-60% shortening for the bottom crust and about 70-75% for the top crust.

16. Gas is the best type of fuel to use for baking purposes.

17. Running cold water on the pans before placing sheets of puff paste, for making Napoleons on them will produce a more flaky product.

18. When water used for making bread is quite soft, the addition of yeast food to the dough is recommended.

19. To eliminate the sinking of the tops of pullman bread, the loaves should be placed upside down on the shelves as soon as they are removed from the oven.

20. Frozen eggs compare very favorably with shell eggs for baking purposes.



—BREAD IS THE STAFF OF LIFE—

RAISIN SHIPMENTS RISE

FRESNO, CAL. — Final shipment figures of California raisins for the 1953-54 season in the U.S. and Canada show an increase of 219 tons over the 1953-54 season was reflected post-war seasonal average by 8,042 tons, according to Norman J. Katen, manager of the California Raisin Advisory Board. The slight gain during the preceding season and exceed the equally in packaged and bulk shipments. Natural Thompson raisins shipped during the season exceeded the 1952-53 total by 1,553 tons.

—BREAD IS THE STAFF OF LIFE—

MEETING OCT. 12

MINNEAPOLIS — The first fall meeting of the Northwestern Bakery Production Mens Club will be at 6:30 p.m. on Oct. 12 at the Hasty Tasty Cafe, Minneapolis. Paul R. Stewart, C. Schmidt Co., Cincinnati, assisted by four bakers, will discuss freezing of bakery products.

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I CREAM STICK—LUNCH ROLL—LONG JOHN—Made with Stock's Daisy Potato Yeast Mix.

S JELLY BALL—BISMARK—Made with Stock's Sweedamix.

Y FRIED CINNAMON or PERSHING—Made with Stock's Sweedamix.

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N OLD FASHIONED HAND-CUT FRIED CAKE—Made with Stock's Daisy Hand-Cut and Gruller Mix.

U CRESCENT—Made by placing insert in standard automatic fried cake cutter.

T STIX—STICKSIES—DUNKERETTES—Automatically made by placing insert in standard automatic fried cake cutter. Made with Stock's Daisy Fried Cake Mix.

S FRENCH CRULLER—Made automatically by attaching motor driven French Donut cutter. Made from bakers own mix.

• SEE COMPLETE DETAILS OF COMBINATION DONUT MACHINE ON REVERSE SIDE

ANSWERS TO "DO YOU KNOW?"

Questions on Page 22

1. **True.** The egg whites in the dough helps to produce a thinner, more brittle crust.

2. **False.** It is much more convenient to purchase a prepared salt rising yeast. This type of yeast is made under scientific controls and will produce a much more uniform product.

3. **True.** Making a somewhat stiffer dough will help to hold down excessive oven spring.

4. **False.** The crust color would be somewhat darker as corn sugar caramelizes at a lower temperature than either cane or beet sugar.

5. **False.** In order to obtain about the same shortening value, about 20% more butter than shortening would have to be used. If the butter contains salt, the weight of the salt in the formula should be decreased from ⅜ to ½ oz. for each pound of butter used. The moisture in the formula should be decreased somewhat as butter contains about 16% (2½ oz.) moisture.

6. **True.** As a rule 1 lb. of malt is used with 10 lb. of water. The raisins should be allowed to drain thoroughly before being added to the dough. Some bakers soak their raisins in water for a short period of time and drain them. They then dip the drained raisins in edible oil and drain them before using them in the dough. This procedure also helps to retard charring or burning.

7. **False.** These ingredients should be increased somewhat to help produce softness. Running the doughs a little slacker, if possible, will also help.

8. **False.** Equipment is now available where this unhandy procedure is eliminated. A plunger type of dropper may be used and the French doughnuts deposited directly into the frying fat.

9. **True.** If the starch is not cooked before being added to the filling, it will settle on the bottom of the pies, producing a pastry layer which spoils the appearance and eating quality of the pies. The boiled starch mixture should be cooled before it is added to the filling.

10. **True.** Whole milk solids contain 30% milk sugar (lactose). Non-fat milk solids contain about 50% milk sugar. Milk sugar caramilizes at a lower temperature than sucrose (cane or beet sugar) or dextrose (corn sugar). If the baking temperature is not reduced, the bread would have too dark a crust color when properly baked out.

11. **True.** Usually ½ oz. cream of tartar is used with each quart of egg whites when making angel food cakes. If vinegar is used instead of cream of tartar, about 1¼ oz. should be used.

12. **False.** The fresher the rye flour, the better the flavor. Therefore, the baker should not carry too large a stock of these types of flour.

13. **False.** The use of invert syrup in the dough will produce a softer cookie. Generally, by increasing the sugar content in the formula a crispier cookie can be produced.

14. **False.** When custard cream is placed into the shells while it is hot, steam forms inside of the shells, causing them to soften.

15. **True.** The percentage of shortening is based on the weight of the flour. Unbleached pastry flour should be used.

16. **False.** With the proper type of oven and equipment, good results can be obtained from coal, coke, gas or electricity. Cost and/or convenience are usually the deciding factors.

17. **False.** It will not produce a more flaky product but does help to decrease shrinkage somewhat.

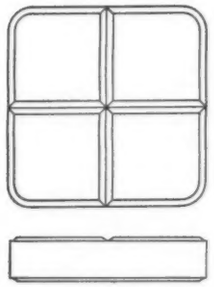
18. **True.** About ¼ to ½% based on the weight of the flour is recommended. The type of flour will have some effect upon the amount necessary. A short patent flour requiring less yeast food than a long patent or straight flour.

19. **True.** The sinking will be eliminated by using this procedure.

20. **True.** In fact, they will be as a rule more uniform. This is because nearly all frozen eggs are packed in the spring when the eggs are of the highest quality. Eggs will vary in quality with the changing season and types or character of feed.

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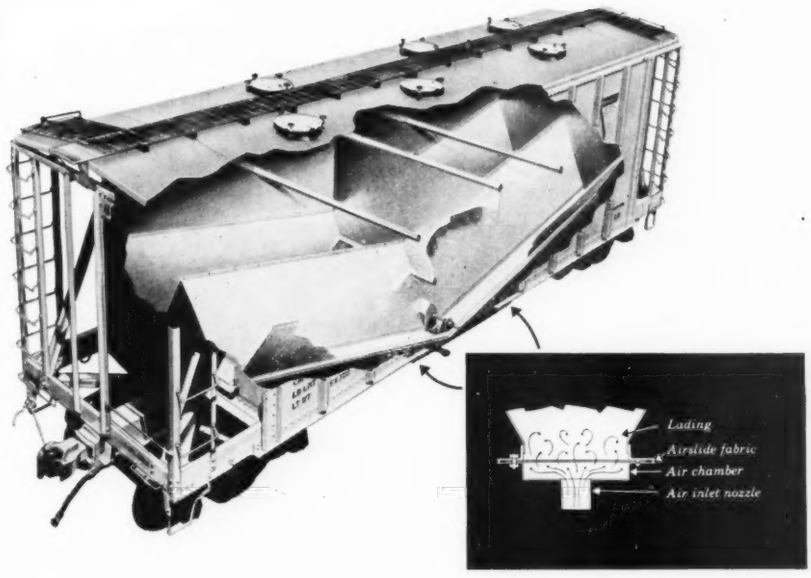
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The Technology of Sugars, Syrups and Starches Manufactured From Corn

By JAMES W. EVANS
American Maize-Products Co.

Millions of bushels of corn are milled each year to obtain a large variety of sugars, syrups, starches and dextrins. The finished products which result from corn wet milling are used by a host of food and non-food industries. In the food field, for instance, they are included in the ingredients. They are necessary for the manufacture of packaging materials and are used in the fabrication or preparation of processing and hauling equipment. Thus, products made from corn help the processor and consumer in many ways.

EDITOR'S NOTE: Among the essential ingredients of bakery products are corn sugars and syrups and corn starches. The technology of these corn products is progressing at a rapid rate. Mr. Evans, director of research for the American Maize-Products Co., Roby, Ind., updates developments in corn products research and relates them to the baking industry in this article. The article is adapted from a talk given by Mr. Evans at a recent meeting of the Midwest section of the American Association of Cereal Chemists in Chicago.



The technology of sugars, syrups and starches manufactured from corn is progressing at a rapid rate. New products are being developed as well as new uses for those already in existence. The corn wet-milling industry is well staffed with technical people and is well equipped with laboratory facilities. It is highly competitive and any one company must be very active in research and development if it expects to stay in business.

I. Corn Sugars and Corn Syrups

It was not many years ago that corn sugars and syrups were considered as substitutes for sucrose. This concept no longer exists and these products are applied because of functional properties rather than just as a sweetening agent.

This more basic concept has resulted in the development of a series of corn syrups and sugars. Each product has specific properties which make its application more beneficial to the user in his particular type of product.

The various types of products manufactured from corn will be discussed in light of present day knowledge. Some of these are relatively new and while uses are established, the extent of their application remains to be determined.

Corn Sugars

1. Dextrose

The pure hexose sugar, dextrose, is produced and consumed in large quantities. It not only has become essential in many food products but is entering the chemical and other non-food fields.

This white crystalline sugar may be obtained in either the mono-hydrate or anyhydrous form. Different screen or particle sizes are available.

The role of dextrose in breads, meats, fruits, confections, puddings, sweet goods, etc., is well known. This sugar improves flavor, texture, color

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and handling properties of the finished products. This can be demonstrated easily by removing dextrose from a flavored formulated item and adjusting sweetness with sucrose. The sweetness is there but flavor and often texture will be altered adversely.

2. Crude Corn Sugars

Crude corn sugars are amorphous materials containing dextrose, reversion products (sugars of higher molecular weight than dextrose) and small quantities of sodium chloride and protein. They are available as 70° corn sugar, 80° corn sugar and tanner's sugar. The numbers 70 and 80 refer to the percent of reducing sugars on an as is basis, expressed as dextrose. The true dextrose content is a little less than these values. These products are light brown to yellow in color and are marketed in chipped, billet and for the 70° sugar in a liquid or syrup form as well. The liquid product is a slightly modified 70° corn sugar.

The crude corn sugars have a bitter-sweet flavor and for this reason are seldom used directly in food products. They furnish fermentable carbohydrates for certain types of vinegar and other organic acids. The brewing and tobacco industries use these products.

Both 70° and 80° corn sugars are ingredients used in rayon and leather manufacture. There are a number of other uses in the non-food field but it is believed they would be of only passing interest to this group.

Corn Syrups

Corn syrups are concentrated solutions of various carbohydrates obtained from corn starch by partial hydrolysis, clarification, decolorization and evaporation to the desired solids content. The degree of hydrolysis, or the degree of conversion of the corn starch is controlled to produce a variety of types of corn syrup.

All corn syrups, regardless of the degree of conversion, are mixtures of the same basic ingredients, namely, dextrose, maltose, higher sugars, dextrins and water. Corn syrups differ in the proportions of these ingredients and sometimes in the processes by which they are manufactured. The dextrose and maltose portions increase as conversion proceeds while the higher sugars and dextrins decrease. The higher conversion syrups are sweeter and are less viscous than regular conversion syrups because of the presence of greater proportions of dextrose, maltose and other sugars, and smaller proportions of dextrins.

Dextrins in corn syrups, while nutritious, are non-sweetening solids and are highly viscous. Their principal values lie in the inhibiting effect upon crystallization of sugars, protective action upon colors, improvement of texture, flavor and appearance, improvement of body or consistency and altering of physical properties such as freezing point, boiling point, etc.

Corn syrups are unique in that they contain a mixture of reducing sugars. This combination of sugars in conjunction with the dextrins make the products interesting in many applications. The biological value of the product is enhanced by these components.

Corn syrup may be classified into four main types based on degree of conversion and subdivided by the method of conversion into two groups: Single conversion and dual conversion. The difference between the two methods is that in the first a single conversion reagent is used and in the second an additional conversion reagent is superimposed upon the single conversion reagent.

The "dextrose equivalent" or D.E. is a measure of conversion and can be used as a basis for classification. By definition the D.E. of a corn syrup is the total reducing sugars calculated as dextrose and expressed on a dry solids basis. For example, if a syrup has a reducing sugar content calculated as dextrose of 42.0% of the dry solids, the D.E. would be 42.

The four general types of corn syrups currently manufactured may be classified in terms of dextrose equivalent or D.E.:

1. Low Conversion Corn Syrup

Syrups of a D.E. less than 40 are referred to as low conversion types and account for a relatively small percent of the total corn syrup market.

In the syrup form, products with a D.E. less than 30 are seldom made because of high viscosity and solution instability of the dextrins in concentrated solutions.

The hygroscopicity of the syrup solids decreases as the degree of conversion is lowered. Thus the solids

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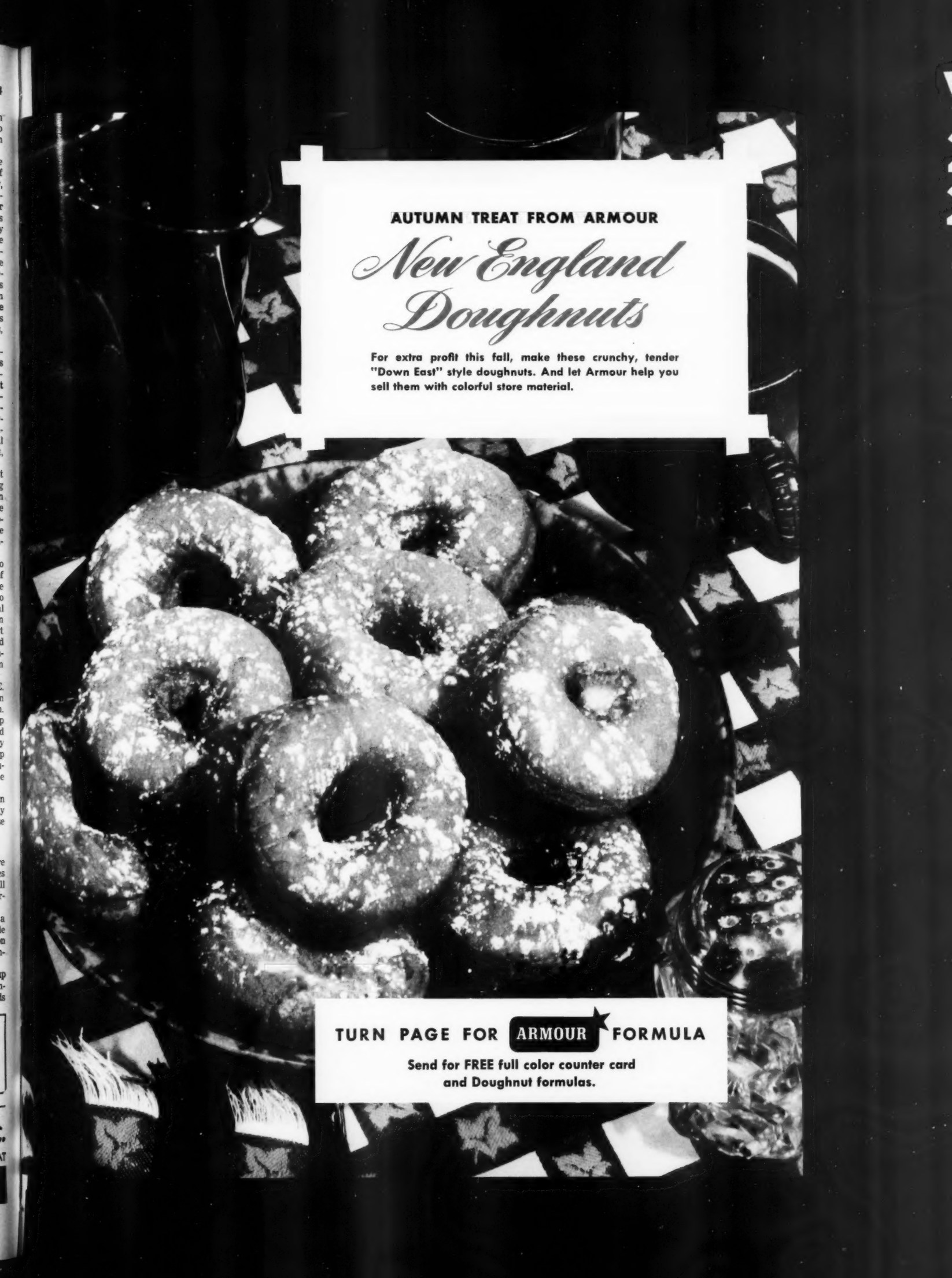
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New England Doughnuts

	Ingredients	Lbs.	Oz.	Directions
1	Granulated Sugar TEX Shortening CLOVERBLOOM Non-Fat Dry Milk Solids Salt Vanilla Lemon Nutmeg	1	6 8 3 ¾ ½ ½ ¼	Cream until light
2	Egg Yolks		10	Add gradually to above and continue creaming.
3	Water	1	7	Add to above, mix in.
4	Cake Flour Bread Flour Baking Powder	3	8 8 2	Add to above. Mix 3 minutes at medium speed.
5	Dough temperature 75° F. Let dough rest 15 to 20 minutes before dropping out or cutting out. This mix can be hand cut or dropped out on a hand crank machine. Finished doughnuts should weigh approximately 2 oz.			



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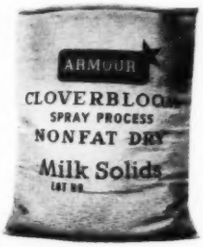
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from a 35 D.E. syrup are less hygroscopic than those from a 42 D.E. product, a 30 D.E. less than a 35 D.E. and a 24 D.E. less than a 30 D.E. This property often is an important consideration in the end use and when included with higher viscosity of the syrup makes the low conversion products very interesting.

The carbohydrate compositions, expressed on a solids basis, for this type of corn syrup are: (1)

D.E.	Dextrose	Maltose	Higher Sugars	Dextrins
24	8.0%	8.5%	20.5%	63.0%
30	11.5	13.0	21.0	54.5
35	15.5	16.5	21.0	47.0

The low conversion syrups are used in infant foods because the carbohydrate composition offers advantages in the digestive tract of the infant.

Chewing gum, beer, fountain syrups, soups, cake frostings, and condiments are among the other products in which these syrups are used.

In some of these applications the very low conversion products are most desirable because of hygroscopic and composition properties. Since, for reasons previously mentioned, it is not practical to leave products with a D.E. less than 30 as syrups the products are spray dried and offered only in the form of corn syrup solids. One such product, Frodex 24, has been very successful. It is a white powder whose hygroscopic properties make possible use in some packaged items. Ability to inhibit crystallization of sugars and to improve flavor and physical properties is very good.

2. Regular Conversion Corn Syrups

The next D.E. range, 40-49, include syrups of the regular or "medium conversion type." They are made by a single conversion process and average approximately 20% moisture.

The carbohydrate compositions, expressed on a solids basis, are: (1)

D.E.	Dextrose	Maltose	Higher Sugars	Dextrins
40	20%	20%	21%	39%
42	22	21	20	37
45	25	22	17	36
49	29	24	15	32

The regular conversion corn syrups are generally offered at 42 D.E. and account for the major portion of the corn syrup business.

Applications are many and varied. The confectionery field is the largest single user but the syrup goes into many other items. Included are cakes, pie crusts, cereals, cake icings, ice cream, sherbets, water ices, jams, jellies, pie fillings, canned fruits, pharmaceuticals and many others.

This type of corn syrup in the dry form is a very interesting product. Its use in such items as ice creams, sherbets, water ices, cakes, pie crusts and spice carriers is well established. Corn syrup solids of the Frodex type are available in two forms, viz., regular or fine powder and granular. The latter is a new product made by a new process developed by the American Maize-Products Co. The granules are of the size of coarse sugar. This form of Frodex has already increased outlets for corn syrup and it is believed many more will be found. For example, extensive test work has been done in the frozen fruit field and results are outstanding. In replacing sucrose with granular Frodex 10% more fruit can be frozen in the same size container which means lower freezing, storage and freight costs. Color and texture of thawed and processed fruits are far superior to the sucrose packs.

Corn syrup solids are applied in the non-food field as binders and foundry mold washes.

3. Intermediate Conversion Corn Syrups

These syrups are in the 50-57 D.E. range. There is some variation in the processes and methods by which these syrups are made. Some manufacturers use a single converting agent, others use a dual conversion system. The latter type superimposes an enzyme after starting the conversion process with an acid.

Those made with the single acid conversion process have the following carbohydrate composition (dry solids basis): (1)

D.E.	Dextrose	Maltose	Higher Sugars	Dextrins
50	30%	26%	14	30%
54	34	27	12	27
57	37	28	10	25

Syrups of this type are sweeter than those of types 1 and 2 and are characterized by lower viscosities.

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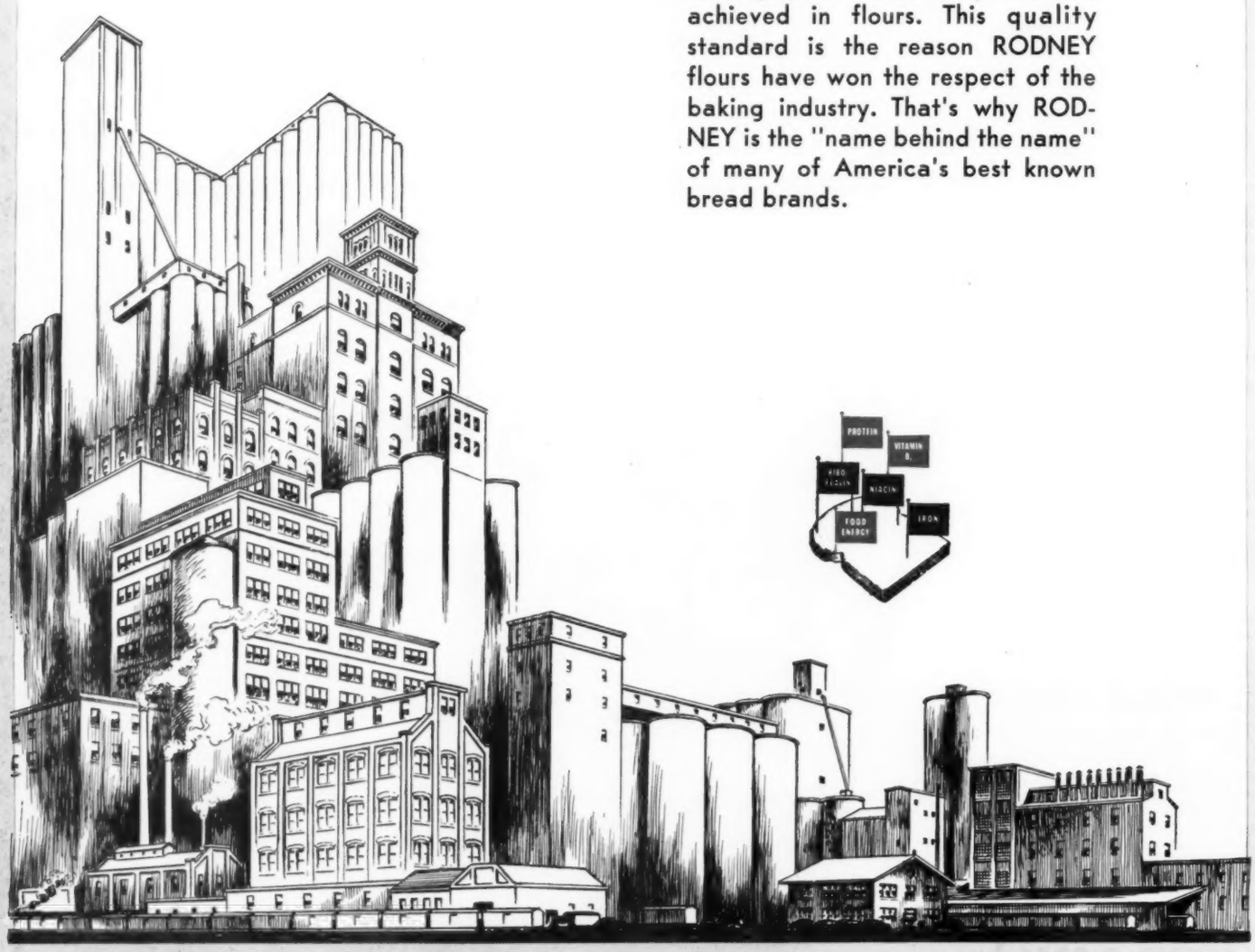
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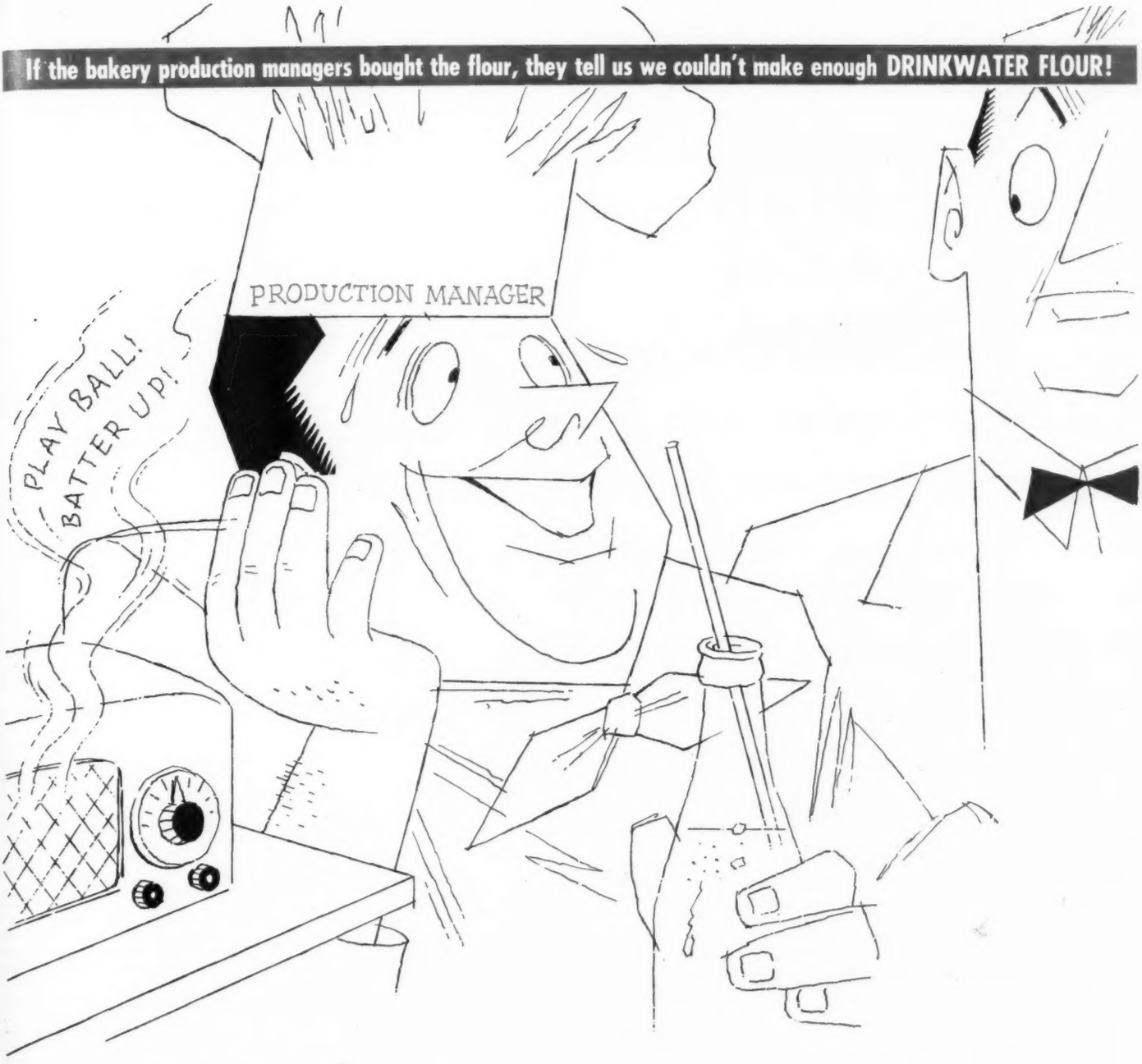
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They are used where high dextrin content is not required.

In certain types of confections, table syrups, bakery items, pharmaceuticals and fermentation processes the medium conversion syrups are preferred.

Recent work has shown that the medium conversion syrups are desirable in fermentation processes where a gradual release of fermentable carbohydrates are required over an extended period of time. They resemble milk sugar (lactose) in this property under certain conditions.

4. High Conversion Corn Syrups

This fourth type is in a D.E. range of 58 or over. These have the smallest proportion of dextrins and lowest viscosity. A variation in converting and refining techniques is employed as both single and dual conversion methods are used.

High conversion syrups usually contain about 18% moisture. Carbohydrate composition for one type (dual conversion) is: (2)

D.E.	Dextrose	Maltose	Higher Sugars	Dextrins
61	36%	33%	17%	14%
63	38	34	16	12
66	41	35	14	10

Such products have specialty applications where very low quantities of dextrins are desired. To mention a few they are used in ice cream, table syrups, jams, jellies and confections.

When reduced to a dry form either alone or in conjunction with other ingredients a hygroscopic product is obtained.

In summary, for corn syrups and sugars it can be seen that all items described are highly refined pure food products whose food value on a solids basis is approximately equal to any of the carbohydrates in common use. These products are versatile materials having many uses and possibilities for many more.

II. Corn Starches

Starch is one of the most widely distributed substances in the vegetable kingdom as it is the chief reserve carbohydrate of plants.

Starches which can be obtained in high yields from plants that grow or are cultivated in abundance are of industrial importance. Such sources are cereal grains, roots, tubers and stems. Corn is the greatest single source of commercial starch. Most of the world's corn starch is manufactured in the U.S., mainly in the corn-growing regions of the midwest.

Native corn starch occurs in the form of granules which vary in size from about 10 to 25 microns. Those which are laid down in a glutinous matrix become compressed as the grain matures and dehydrates. This results in granules angular in shape and highly refractive. Starch deposited in the crown of the corn kernel is very loosely packed and when examined under the miscroscope the granules appear to be perfectly round. Descriptive terms applied to starch granules are round, ellipitical, oval, polygonal and truncated.

Structure of the starch granule breaks down on heating in water. This takes place in three steps. During the first, water is taken up slowly and reversibly with a limited amount of swelling. When a given temperature is reached, depending upon variety of starch and modification, the granule suddenly swells by taking up water and there is a marked increase in viscosity of the starch suspension. This stage is not reversible. With increasing temperature the granules become almost formless sacs and the more soluble part of the starch is leached from the granule. Starch granules treated with acids or certain oxidizing agents do not swell when heated in the presence of water. They disintegrate and appear to pass into solution. The treatment reduces the size of the molecules and these are not capable of forming the networks characteristic of the swollen granules.

Properties of the starch granules are of extreme importance in many industrial applications. Size and shape are not major factors. Since starches are used chiefly in cooked or pasted form, characteristics of the granules in this condition are of major concern. Their ability to paste without disintegrating is required in applications where relatively strong acid conditions exist while controlled granule disruption is desirable when low temperatures are encountered.

The requirements of industry are such that development of special products has become necessary as starches in the native or unmodified form do not have the desired properties. Perhaps it would be more correct to state that the more exacting requirements resulted from development of modified starches.

Starch is a high polymeric carbohydrate which undergoes organic chemical reactions and conversions common to all carbohydrates. In addition, its behavior in dispersion or solution and in the solid state is controlled by principles applicable to all polymers.

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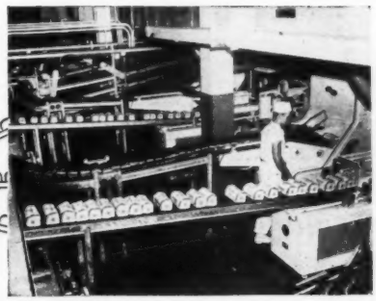
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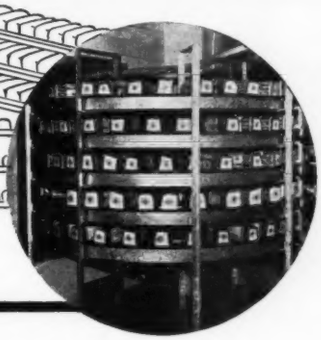
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is glucose and these units are believed to be joined by glucosidic linkages.

In 1940 Meyer and Bernfield (3) found that material extracted from starch granules by hot water was a linear polymer, now termed amylose. Studies showed that the residue was primarily branched in nature. This is now called amylopectin. Continued investigations by many workers have resulted in many facts of practical interest.

In polymers having straight linear chains like amylose the hydroxyl groups which have a strong affinity for those in another molecule get sufficiently near each other to become bound together. This occurs in starch pastes, and gels will form if concentration is sufficiently high. In dilute solutions or pastes these associated chains will precipitate. This is called retrogradation. Since amylopectin is a branched polymer, parallel orientation is very difficult and its pastes will not gel. This explains the non-gelling characteristic of the waxy maize starch which is 100% amylopectin. Corn starch whose pastes form gels contain about 25% amylose and 75% amylopectin.

With this information it is clear that in application of starches the relation of chemical composition and structure to physical properties of pastes, gels and films is important. In special corn starches the molecules have been altered to beneficially change these physical properties.

Corn starch is the most abundant of all commercial starches in the U.S. It is the raw material for more specialty starches and converted products than any other starch. A large variety of corn starches are available and are used in many applications. They are used in such food products as pies, puddings, salad dressings, canned foods, confections, baking powder, yeast and bread dusting. Included in non-food applications are sizes for papers and textiles, adhesives, ore refining, laundry starch, and, foundry core-binders. Corn starch in large quantities is used in the pharmaceutical field.

Corn starches which are available and which are used will be discussed briefly. They are classified usually by properties of the cooked pastes and type of processing.

1. Unmodified Corn Starch

This is the highly purified corn starch obtained from corn by milling, separating, washing and drying. No added treatment is used. When cooked in water the paste is cloudy, non-cohesive, and upon cooling will gel if concentration is sufficiently great.

Large quantities are used in the food, paper, textile, adhesive and ore refining industries. This is the type of starch that goes into puddings, soups, pies, canned foods, etc.

2. Heavy Boiling Corn Starches

Starches whose cooked pastes are more viscous than those obtained from untreated corn starch are called heavy boiling starches.

Magnitude of viscosity increase while depending upon cooking or gelatinizing conditions can be adjusted to several times that of the parent starch. However, application has been made mostly of those showing a 10 to 100% increase in viscosity.

At the present time these products are used in principally the textile and paper fields. In time products will be released for application in foods.

3. Degraded Corn Starches

Degradative methods such as treating with acids, oxidizing agents, heat and enzymes are used to reduce the viscosity of starches for application in foods, adhesives, sizings and coatings. Type of treatment controls gel and flow properties as well as viscosity.

a. Acid Treated Thin Boiling Corn Starches

Degrading of starches with acids is believed to increase the quantity of linear amylose at the expense of the branched amylopectin. These starches retrograde and gel to a greater extent than the native product.

The thin boiling or fluidity starches are prepared in a range of viscosities. The principal ones go by the fluidity designations of 20, 30, 40, 50, 60, 75 and 90. The fluidity value is a reciprocal of viscosity.

Thin boiling corn starches differ from unmodified corn starch in two respects. Cooked pastes are thinner and they are available in a wide range of viscosities. They make possible the preparation of gels having relatively high solids content.

This type of starch is usually con-

(Continued on page 38)

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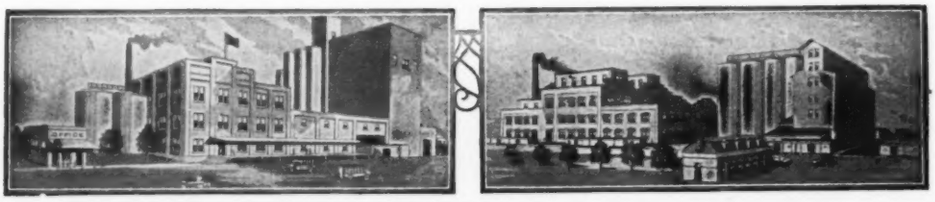
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Ringing the Baker's Doorbell

The new bakery being set up at 118 W. Seventh St., **Junction City, Kansas,** by Reed Hinton, will be known as Esther's Cake & Pastry Shop.

●

V. E. Mammel, president of Mammel's, Inc., **Hutchinson, Kansas,** supermarket, has purchased the Hutchinson (Kansas) Pie & Baking Co., 419 South Main St. Ralph G. Coffee will remain as the manager, and the firm will be known as Mammel's, Inc.

●

Kullmann's Mitchell St. Bakery, **Milwaukee,** has a new manager. He is David Rubin. The Kullmanns have opened a bakery in Shorewood.

●

Announcement of the opening of a new pastry shop in **Lexington, Ga.,** has been made by Tillman L. Allen.

●

Preston Jackson has opened a bakery in **Sharon, Ga.**

●

Fish's Food Shoppe, **Elberton, Ga.,** has opened additional quarters at the store adjoining its present location. The new section contains attractively arranged bakery counters.

●

Workers at Meyer's Bakery, **Little Rock, Ark.,** received honors when Charles Meyer, Sr., president, presented pins to the following: Alfred Ruck, cake-production worker, 30-year service pin; Paul Steiger, bread production worker, 30-year pin; Emmett Seward, bread production superintendent, and Ida Alice Meyer, office manager, 15-year service pins.

●

Dietzen's Bakeries, Inc., has bought the John B. Ruger Sons Co. bakery at **La Fayette, Ind.,** and is continuing operations there under the same name. A. P. Jamison, son-in-law of the founder of the Ruger business, continues as the resident manager for the new owner. The Dietzen products will be added to the Ruger products at the La Fayette location.

●

The Belleville Bake Shop, **South Bend, Ind.,** has been opened by Mr. and Mrs. Sigmund Podias at 3618 Western Ave.

●

The Lakeland Bakery, **Milwaukee,** operated the past three years by Mr. and Mrs. Walter Smalter, has been sold to Mr. and Mrs. Herman Meyer, who have operated bakeries in Chicago and Spooner, Wis. The new owners are installing a new oven.

●

Brownberry Ovens, Inc., **Oconomowoc, Wis.,** is constructing a new one-story office building which will serve as an addition to its new bakery in the Holland subdivision, according to Norman Kubczak, office manager. The building will house Brownberry's general and executive offices. The bakery has also leased a building at 113 Thompson St. where it will manufacture stuffing, bread pudding and crumbs.

●

The Prairie Maid Bakery, **Prairie du Chien, Wis.,** has started operations in its new plant on South Marquette Road. The bakery will continue to operate its downtown sales room until the salesroom in the new building is ready, Bud Pedretti, bakery owner, said.

●

Four Williams Baking Co., **Scranton, Pa.,** drivers with a total of 90 years behind the wheel without a single accident received "Oscars" at a safety recognition dinner in the Blue Lantern Restaurant. Awards were presented by Wayne Williams, personnel manager, to Edward Flanagan with a safety record of 26 years; Hubert Gordon, 23 years; Albert Strein, 21 years, and Francis MacDonald, 20 years.

●

Sale of the Moore's Bakery business and leasing of the bakery property at 116 North Main St., **Bellefontaine, Ohio,** to Richard Winana, has been announced.

●

Hedberg's Home Bakery has been opened in a new location at 909 North Main St., **Jamestown, N.Y.** It formerly was at 277 Willard St. The

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●

George E. Wein intends to conduct a business known as the Cake Box at 212 S. Main St., **Elmira, N.Y.**, and is the successor to Carl Taddings who has filed a certificate of discontinuance.

●

The National Hole-N-One Donut Corp., **Little Rock, Ark.**, has been granted articles of incorporation by the secretary of state, listing an authorized capital of 100 shares of no par value. The incorporators are Morris Cotlingham and Dean R. Morley, Little Rock, and James E. Waddell, Brownsburg, Ind.

●

The Purity Bakery, **Norman, Okla.**, formerly owned by Ernest Tucker, has been sold to Hayden Harris, formerly engaged in the bakery business in Oklahoma City.

●

Knott's Bakery, **Ada, Okla.**, has been sold to the Mead Bakery chain which operates in Oklahoma and Texas.

●

A public hearing on proposals to establish definitions and standards of identity for a group of bakery products was held in the State House in **Salem, Ore.**, under the direction of the State Agriculture Department. O. K. Beals, chief of the division of foods and dairies, presided. The proposed standards, together with labeling statements of optional ingredients for each class, will apply to seven kinds of breads, buns and rolls. Categories include white flour, milk, raisin, enriched, whole wheat, graham and entire wheat. It was announced that unless further information is necessary, the new standards will become effective Nov. 1.

●

The Meyer Baking Co., **Paris, Ill.**, held a dinner meeting recently at **Danville, Ill.**, for approximately 50 salesmen to discuss Hollywood bread. John Roberts, Chicago, sales representative of Hollywood, presided over the meeting. Brief talks also were made by Carl Meyer, owner of the Paris company, which holds a Hollywood franchise, and H. R. Mills, company manager.

●

Since the opening of the **Breese (Ill.) Bakery** by Mrs. Ruth Work, in the Imming building, the patronage accorded her has encouraged Mrs. Work to install added equipment.

●

Maywood Baking Co., **Oklahoma City,** has installed new equipment. John Wallen is president.

●

Lowdermilk Bakeries, **Denver,** have announced construction of a new retail bakery in the Park Hill shopping center, at East 33rd Ave. and Hudson St., Denver.

●

The Cookie Jar, **Lordsburg, N.M.**, has been reopened.

●

About 700 visitors attended the grand opening of the **Glasgow (Mont.) Bakery,** according to the owners, Frank McAtee and L. L. Thrash. Mr. McAtee also owns bakeries in **Estelline, S.D.**, and **Watertown, S.D.**

●

Russell Smith, owner of the Sunshine Bakery in **Baker, Mont.**, has sold his equipment.

●

An explosion in the City Bakery, **Brookings, S.D.**, has forced the proprietor, Roger Julian, to install considerable new equipment.

●

A new building is being constructed for the **Elmore (Minn.) Bakery.**

●

Plans of the Lincoln Baking Co., **Minneapolis,** to move to St. Louis Park, a suburb, and build a $250,000 building are being changed following the rejection of a rezoning bid.

●

A remodeling and addition project will double the capacity of the Superior Bakery, **Harvey, N.D.**, according to Harold Schwarz, owner.

●

Franke's, Inc., 1111 West Third St., **Little Rock, Ark.**, has been sold to Safeway Stores, Inc., which will operate it as the Fairfax Bread Co.

●

The **Manly (Iowa) Bakery** has been opened for business by O. H. Lichtenstein, proprietor.

●

Chris Jacobs has closed his bakery at **Alton, Iowa,** and has moved his equipment to **Spencer, Iowa,** where he will conduct a retail bakery.

●

Olmsted & Foley Advertising Agency, Minneapolis, has been named to represent Gladness Bakeries, Inc., **Minneapolis.**

●

The Sunlite Bakery, 401 W. Greene St., **Carlsbad, N.M.**, was seriously damaged by a boiler explosion recently. D. R. Edwards, manager, said production continues as repairs are being completed.

●

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Our mill is located in the high protein wheat district of central western Kansas, and secures most of its wheat directly from growers.
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CORN PRODUCTS TECHNOLOGY

(Continued from page 34)

verted in a water suspension with a small amount of acid at a temperature below the gelatinization point of the starch. When the desired degree of modification has been reached, the acid is neutralized, and the starch is de-watered, washed and dried.

Millions of pounds are used each year in gum confections, textile warp sizes and laundry starches.

These starches were among the earliest specialties to be prepared in this country. Recent developments include controlled gel strengths, greater gel clarity and modified physical forms of the dried starch.

b. Oxidized Corn Starches

Oxidized starches are prepared by treating starch suspended in water with sodium hypochlorite. It is believed that this oxidizing reagent does not preferentially change the branched amylopectin as occurs in acid treatment of starches. It introduces highly soluble carboxyl sodium and carbonyl groups into the chain fragments which counteract the tendency to retrograde and gel.

Pastes prepared from oxidized starches in contrast to unmodified corn starch or the acid treated starches are clearer and more resistant to gel formation.

These starches are seldom used in foods. They are applied in the textile, paper and adhesive industries.

Developments made recently are improved clarity of pastes, improved filming and flow properties, and the additions of products having specific desired penetrating and finishing characteristics.

c. Heat Treated or Roasted Corn Starches

Heat treating or roasting of starches to prepare dextrins and British gums results in products with pronounced non-gelling properties. Good evidence was obtained by Brimhall (4) that heating starch under conditions of dextrinization leads to a disappearance of linear chains with an increase in the degree of branching of the molecules.

Briefly there are three general types of heat treated starches, British gums, white dextrins and yellow dextrins.

British gums are prepared by roasting commercially dry starch under various conditions. Catalysts are not generally employed. They are available in a variety of viscosities, and vary in color from light to dark brown. British gums pastes are more stable than those prepared from thin boiling starches (acid treated) and have better film properties. These gums are used in adhesives and in textile printing.

White dextrins are prepared by roasting commercially dry starch in the presence of a small quantity of acid. They are light in color and cooked pastes tend to set to soft gels or pastes. Pastes prepared from a low converted white dextrin resemble those prepared from a high fluidity thin boiling starch. Library pastes and many textile finishes are made largely with white dextrins.

Yellow dextrins are roasted with less acid than white dextrins and with more acid and less heat than British gums. They are the most highly converted of all converted starches. All yellow dextrins are relatively thin cooking and it is possible to make 50-60% solutions that will be stable for months. These solutions are very tacky or sticky which coupled with fast drying properties explains why their main use is in adhesives.

While these products are seldom used in formulation of foods they are important items in packaging and labeling.

Much research is being done with the roasted starches and major improvements have been made. Roasted corn starches are replacing roasted tapioca and potato starches in many flat gumming applications.

d. Enzyme Treatment

Study of the action of enzymes on starch has resulted in commercial products and has accomplished much in clarifying the structure of starch.

Enzymes are employed to convert unmodified corn starches into viscosity equivalents of thin boiling and oxidized starches, and high viscosity dextrins. While simple, the process must be carefully controlled to obtain uniform results.

Since gelatinization or cooking is usually employed in enzyme conversions the process is carried out by the user of the starch. Studies have been made and a few patents granted on enzyme treatment of starches in the granule form.

This converting procedure is of importance to every flour miller and baker and it is believed that studies relating to enzyme conversion of



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various starches and starch derivatives would be very beneficial.

4. Corn Starch Derivatives

a. Cross-linked or Inhibited Starches

In the past 10 or 12 years starch derivatives have found extensive application. Such special derivatives prepared from corn starch and from waxy maize starch or Amioca show more resistance to breakdown or hydrolysis in acid mediums and withstand low temperature storage in the cooked form much better than other modifications.

Derivatives prepared from corn starch in comparison to other modifications have a greatly reduced tendency to gel or set.

A starch derivative results from the treatment of starch with a reagent which reacts with hydroxyl groups to introduce into the molecule replacements for the hydroxyl groups. The derivatives applicable to the baking, salad dressing, canned food and other food fields are those of very low degrees of substitution. They have not more than one substituent group for each 100 to 300 glucose units.

The most important type of starch derivative for these applications is that resulting from the action of bi- or poly-functional reagents. These compounds are capable of reacting with more than one hydroxyl group to form cross-links or bridges from one starch molecule to another. When the treatment is done with ungelatinized starch granules it appears that cross-linking of molecules on or near the surface occurs with a resultant toughening of the granule.

When the degree of cross-linking is only one glucose unit out of two or three hundred, the gelatinization temperature is raised and cooked pastes have a higher maximum viscosity. Pastes are more resistant to viscosity break-down when subjected to mechanical agitation as well as to thinning when held at high temperatures and/or at low pH's. The swollen granules are apparently more resistant to rupture and collapse than those of untreated starches.

Slight degrees of cross-linking reduce the cohesive, rubbery characteristic of starches such as tapioca, potato and waxy maize. This change in paste properties is required for application in salad dressing, pie fillings and puddings.

It is possible to obtain starches which show any degree of swelling desired by controlling the degree of cross-linking of ungelatinized starch granules. For example, starches with an average degree of cross-linking corresponding to about one in every twentieth glucose unit show an extremely limited ability to swell on cooking.

Starch derivatives of the type just discussed are termed "inhibited" or "cross-linked" starches.

There are several methods that can be used to obtain cross-linking. While not applicable in the food field, the action of formaldehyde on starch has been known for sometime. The use of dihalides and epoxyhalohydrins in the presence of caustic to increase the viscosity of starch pastes was described by Maxwell (5). These were applied to ungelatinized starch granules by Konisberg (6). Caldwell (7) reported the use of linear anhydrides of dicarboxylic acids such as adipic, azolaic and sebasic. Phosphorous oxychloride and antimony oxychloride were disclosed by Felton and Schopmeyer (8). It is believed that diesters of these inorganic acids are formed.

A number of the cross-linked starches both corn and waxy corn are being used in large volumes. New products have been developed, field tested and so will be promoted in the food and non-food fields.

b. Hydroxyethyl Starches

These starch derivatives are prepared by reacting cornstarch with

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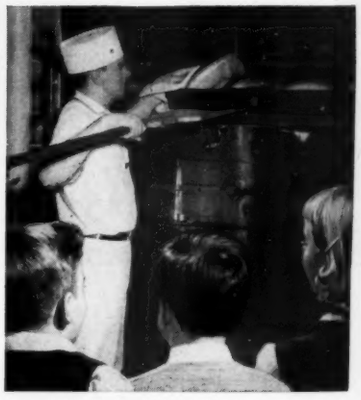


This special party-guest design "takes the cake" for sales!

Apply icing in wedge pattern, putting the name of a guest on each wedge. Or ice each segment with a different color. Suggest these "personalized cakes" to mothers when in your store. You can wait till nearly the last minute to ice on names ordered, to allow for changes in the guest list. Delighted party guests will come to you for cakes of their own!

Give a bonus to make one!

Surprise your regular customers with a small sample of one of your luscious new products or a familiar old one. Slip the sample in with the regular purchase as a "bonus." Pleased customers will have even more good will towards your store, may well give *you* a bonus of more purchases of all your products.



Give school children a "lesson"—in bakery treats! A tested good-will builder is to hold "Open House" for students. Let these purchasers of tomorrow see today what your bakery has to offer.

Suggest a field trip to local grade or high-school authorities. When students come, show them how your bakery

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ethylene oxide. Cooked pastes, in comparison to those from parent starch, are clearer, more cohesive, form soft gels or remain fluid and have excellent filming properties.

Hydroxyethyl starches are not offered to the food field but have application in textiles, papers and adhesives.

c. Other Starch Derivatives

There are a number of additional starch derivatives in the developmental stage and others being applied in the non-food field. Information is not available for presentation at this time.

5. Pregelatinized or Hot Rolled Starches

It is possible to precook any of the starches discussed above. However, at the present time, those most available are unmodified cornstarch, acid treated cornstarch and the cross-linked starches.

Products are readily dispersible and swell in cold water or milk. They are the base for all the new instant puddings and find application in many other foods. Non-food uses include oil well drilling, flotation separations and adhesives.

6. Amioca or Waxy Corn Starches

These specialty starches are available in any of the types of products discussed.

Amioca is an unusual starch produced from a unique corn known as waxy maize. Commercial production is an outstanding accomplishment of a cooperative development program that included chemistry, plant breeding, agriculture and industry. The term waxy is a misnomer as this corn has no relationship to wax. The name was derived from the appearance of the kernel's cross-section.

Amioca differs markedly from cornstrach. It is more like tapioca than like a cereal starch. Its pastes are clear, fluid and cohesive like those of root starches. Amioca pastes will not gel and have the useful property of stabilizing other starches.

The basic difference between Amioca and cornstarch is that it contains 100% amylopectin.

Amioca in the various forms is being used in many applications. Pie fillings, salad dressings, canned foods, puddings, textile printing and finishing, and adhesives are some of the consumers of this product.

Even with the great advances in methods for modifying starches there still remain applications for starches of different botanical origins, These are of a highly specialized nature and the number is being reduced each year. Waxy cornstarch and cornstarch in modified forms are replacing tapioca, arrow root, and potato in a number of applications. New methods for treating the corn starches have made this possible.

Wheat starch is of interest to flour millers. Wheat starch, both modified and unmodified, has interesting and useful properties. Some show exceptionally high cold paste viscosities in relation to low viscosities when hot. These same products have relatively good resistance to viscosity breakdown when agitated constantly at elevated temperatures and in acid mediums. Emulsifying properties are good and gels broken-up mechanically reset rapidly. All of these properties have been imparted to corn starches by means of newly developed modification procedures with resulting economics for the users.

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works—the care you take in preparing your products, the high quality of your ingredients, the skill of your staff.

Your student-guests will be impressed, will remember your bakery and its many delicious products. They are your customers of tomorrow . . . while influencing their parents' purchases today. There's profit in this "lesson!"

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If it is impractical for you to install such an exhaust fan now, keep this idea in file for the next time you remodel—or open a new branch.

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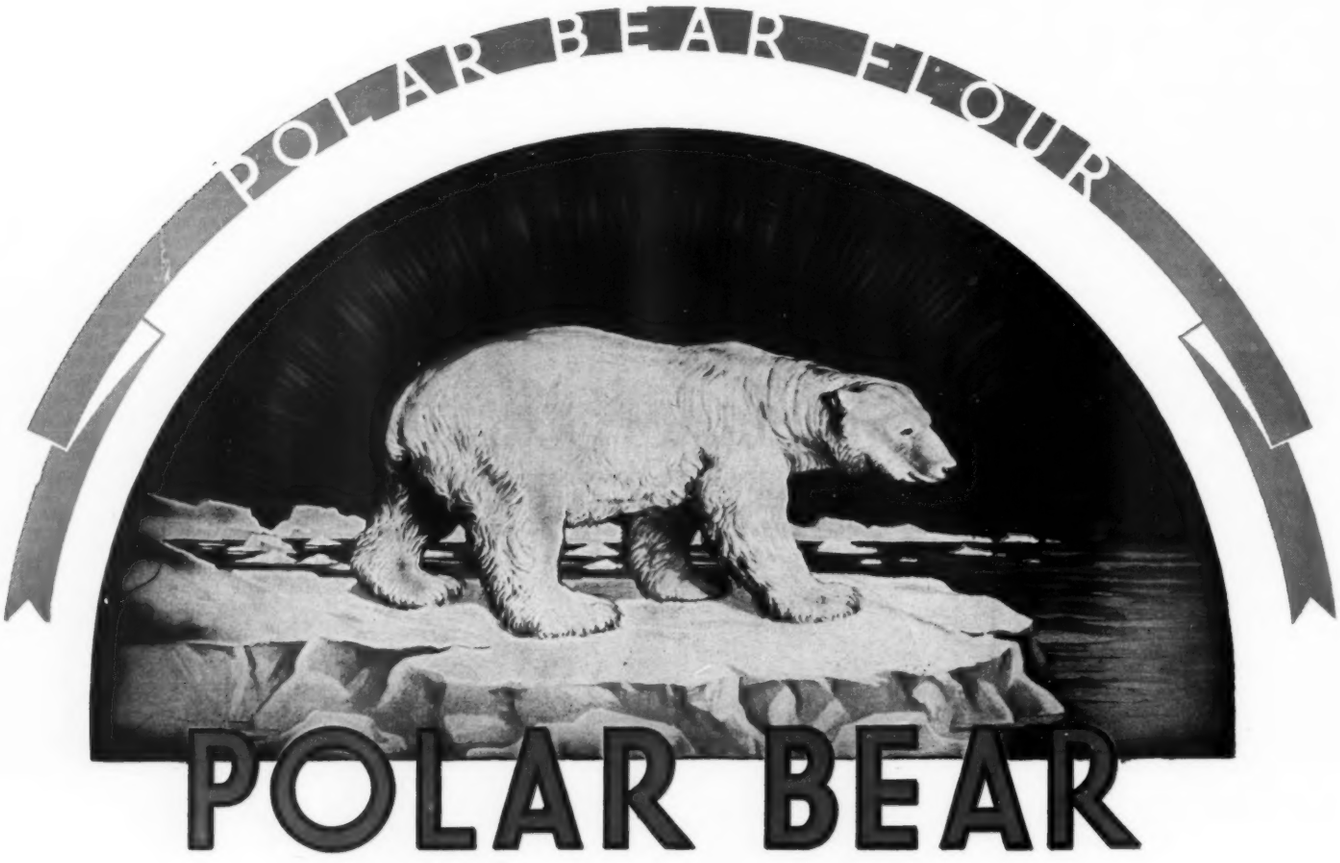
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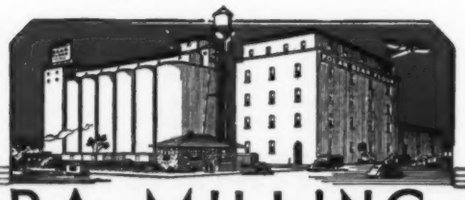
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Worth Looking Into



New Products
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This reader service department announces the development of new and improved products, new services and new literature offered by manufacturers and suppliers. Claims made in this department are those of the firm concerned. Use the accompanying coupon to obtain the desired information.

No. 3612—Metal Container

Luxury bouquets in traditional French Provincial multi-colored design impart a feeling of elegance to a reusable metal container imported from Holland by the Daher Co., Holland Box Div. Supplied with an inner box of heavy white-coated chip board or a liner, it is said to be ideal for cookies and confections. The lid is hinged for maximum convenience and reuse value. Internal dimensions are 9¼ in. by 5½ in. by 2¼ in. To secure more complete details check No. 3612 on the coupon and drop it in the mail.

No. 3613—Oven

A 2-page bulletin that describes the new "mixing" oven for baking cornmeal collets and other similar food products has been issued by the R. G. White Engineering Co. Illustrated with technical drawings and actual production shots of the oven in operation, the bulletin explains how the 3-pass oven bakes all shapes of collets on a stainless steel mesh conveyor system as part of an integrated production line. The oven condenses 135 sq. ft. of baking area into 4 by 16 ft. of floor space, and has a range of production (in two models) from 300 to 700 lb. per hour. Copies of the new bulletin are available on request. Check No. 3613 on the coupon and the bulletin will be mailed to you.

No. 3611—Saran Dispenser

The availability of a new saran film dispenser roll for hand wrapping baked goods at retail level has been announced by the Dow Chemical Co. While saran film has been used on the packer level for years for prepackaging of many food products, this marks the first time the film has been available on a dispenser roll for use in bakeries. The highly transparent saran retains moisture and freshness in baked goods, including cakes, cookies, pies and rolls, it is claimed. Also, the film clings to itself or to a tray making a convenient cover for the baked goods. The new dispenser accommodates rolls 9 in. through 12



in. in width with 5½ in. outer diameter. Features of the white enameled dispenser, developed by E. O. Bulman Manufacturing Company, Inc., include a tension spring brake to insure a smooth, even feed of film; a special guide to hold film in correct position and smooth it out when pulled from the roll; an automatic spring flap to insure free end of film for easy grasp in handling of new sheet; and a hinged cover that lifts for easy loading of a new roll. Information on distribution of the film and dispenser may be obtained by checking No. 3611 on the coupon and dropping it in the mail.

No. 3614—Overhead Door

The Barber-Colman Co. has introduced new features into its model 50 Barcol OVERdoor which, it is claimed, will keep out all rodents and vermin. A cam closing action feature is claimed to be exclusive on this door. Individually adjusted cams are used to press each door section tightly against the stops. These cams back the door away from its stops at the beginning of the opening stroke. These doors are available in a wide range of styles and sizes. To secure more complete details check No. 3614 on the coupon and drop it in the mail.

No. 3615—Electric Delivery Trucks

A new line of electric delivery trucks is being offered by Cleveland Vehicle Co. According to designer Walter S. Thomas, the new trucks are powered by Exide Ironclad batteries which are charged overnight. The Electric Storage Battery Co., Exide Industrial Division, supplier of the batteries, estimates the charging cost at approximately 33¢ a shift per truck on delivery routes up to 35 miles. Since the electric trucks require virtually no other maintenance and can spend more time on the road, fewer are needed to serve the same routes covered by conventional vehicles. Insurance rates are lower because of the greater safety factor of the electric truck. Useful truck life of 20 years or more is estimated. Absence of fumes, vibration and noise also is among the advantages claimed. The lightweight trucks carry a payload of 2,000 to 2,500 lb. at speeds more than adequate for today's urban driving. Exide battery power assures longer life for all wearing parts, including standard pneumatic tires. Front wheel drive with the battery mounted over the front wheels provides maximum traction and unobstructed loading space in the rear. To secure more details check No. 3615 on the coupon and drop it in the mail.



No. 3616—Pie Stabilizer

The S. Gumpert Co. has introduced Kwik Pie Stabilizer, a ready-to-use product which is claimed to provide color, flavor and stabilizer. To prepare, sugar and Kwik Pie are mixed slowly. Cold water is added and then a No. 10 container of fruit or berries, including juice, is added. The mixture should stand 15 min. and it is ready to use immediately or later. This product enables the baker to use whatever brand of fruit or berries he likes best. It is packed in 20 oz. packages to be used as a unit with each No. 10 tin of fruit or berries. It can be obtained in five flavors: apple, cherry, peach, pineapple, blueberry or in neutral flavor. For further information on this product check No. 3616 on the coupon and drop it in the mail.

No. 3617—Freezer

A new bakery freezer cabinet which holds 25 standard baker's trays



is being introduced by Deepfreeze Appliance Division, Motor Products Corp. The freezer, a self-contained upright model, with a capacity of 18.6 cu. ft., will be sold directly through the manufacturer's national distributor organization. As a baker gets acquainted with freezing advantages and needs more capacity he can add more storage, unit by unit, with this type of freezer, the company claims. The freezer is of the "plug-in" type and can be moved about. It is also suitable for a customer's self-service freezer. A series of side racks in the freezer will hold up to 25 baker's trays, 18x24 in. in size. Trays slide smoothly in and out of the racks without tilting or tipping. There are 2 in. between racks. The racks are made of heavy gauge metal, zinc-plated, lacquered and baked. Freezing controls may be set for

Send me information on the items marked:

- ☐ No. 2724—Flour Cleaning Machine
- ☐ No. 2958—Intercom System
- ☐ No. 3574—Checking Instrument
- ☐ No. 3610—Sealing Tape
- ☐ No. 3611—Saran Dispenser
- ☐ No. 3612—Metal Container
- ☐ No. 3613—Oven
- ☐ No. 3614—Overhead Door
- ☐ No. 3615—Electric Delivery Trucks
- ☐ No. 3616—Pie Stabilizer
- ☐ No. 3617—Freezer
- ☐ No. 3618—Anniversary Booklet

Others (list numbers) .....

NAME .....

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ADDRESS .....

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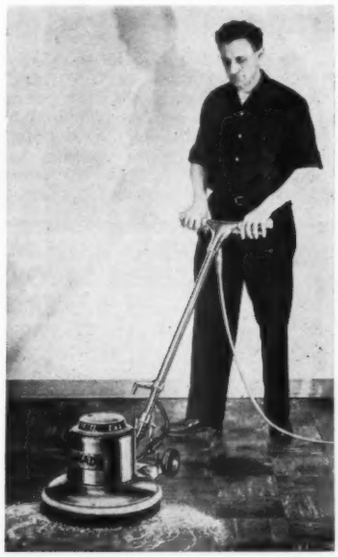
storage at zero degrees or for fast freezing down to 10° below zero. The cabinet, which is finished in white baked enamel, measures 72 in. high and 34 in. wide, and occupies 7.7 sq. ft. of floor space. To secure more details check No. 3617 on the coupon and drop it in the mail.

No. 3618—Anniversary Booklet

"25 Sparkling Years," a 16-page booklet tracing its history and contributions to the packaging industry, has just been issued by the Sylvania Division, American Viscose Corp., in commemoration of its 25th Anniversary as one of the nation's major producers of cellophane. The booklet outlines the progress of Sylvania from its beginning just before the crash of 1929 to its standing today with a capacity of 100,000,000 pounds yearly. To secure the booklet check No. 3618 on the coupon and drop it in the mail.

No. 2724—Floor Cleaning Machine

A new, all-purpose floor cleaning machine, called the "Tornado," has been introduced by the Breuer Electric Manufacturing Co. It is said to offer many mechanical and operational features to reduce operator fatigue and speed cleaning operations. Said to be a new feature is a feather-touch switch on both sides of the handle to allow operation with either hand. The left switch also controls the flow of scrubbing solution from a tank attached to the handle. Maneuverability is permitted by attaching the electric cord directly to the lower side of the handle. The machine also is shorter in length, offers improved balance and control, widely adjustable handle, self-retracting, non-marking neoprene wheels, easy brush coupling, non-clog container, a newly-designed, sealed motor and gear assembly, and a complete line of accessories. Material describing the machine may be obtained by circling No. 2724 and returning to the address provided.



No. 2958—Intercom System

A six-station wireless selective master intercommunications system, requiring no cables or installation, has been introduced by Talk-A-Phone Co. Said to be the first completely selective wireless intercom system, the Talk-A-Phone LCM-8806 offers many features of the company's conventional line, including a six-channel selector, which enables each unit in the system to transmit to any of the six separate channels and receive calls on any channel it selects to use.

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high altitude spring wheat—plus four generations of milling experience—plus a modern mill—result in TRISCO flour—for bakers who want a mellow-type flour of superior quality.

TRI-STATE MILLING CO. Rapid City, S. Dak.

As many as three separate conversations can be carried on simultaneously over the six-station system. Wireless selective communication, enabling any master to select and carry on a conversation with any other master separately, is another of the features. The "Sonic Gate" circuit suppresses line noises and hum while the system is in actual operation as well as when in stand-by position, it is claimed. The unit is adaptable for additional master units, starting with two masters. It is suitable for instant or temporary installation. The unit plugs into the conventional electric outlet. For more complete details check No. 2958 on the coupon and mail it.

No. 3610—Sealing Tape

More than 100 ways in which pressure-sensitive tapes serve the nation's food industry are described in a new 24-page manual published by the Minnesota Mining & Manufacturing Co. The manual contains 142 illustrations showing how 18 various "Scotch" brand pressure - sensitive tapes can be used by bakery, confectionery, and other industries. You can secure the manual by checking No. 3610 on the coupon and mailing it.

No. 3574—Checking Instruments

A continuous check on process systems and equipment is possible by using the Time-Recorder-Totalizer or the Time-Totalizer, according to the manufacturer, the Heat-Timer Corp. Either one of these instruments is said to simplify the checking of any process, equipment and operating personnel. The Time-Recorder-Totalizer makes an uninterrupted record of when and how equipment is used. On a continuous tape, a permanent record shows chronologically when the process or equipment is on or off. The Time-Totalizer highlights in bold relief defects in the process, equipment or automatic control adjustment used in the system. The Time-Totalizer, like an adding machine, automatically totals the operating time of equipment. For more complete details check No. 3574 on the coupon and drop it in the mail.

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DARK FRUIT CAKES—control flavor, taste, and color of dark fruit cakes, batter cakes, and cookies with GRANDMA'S Old Fashioned *Unsulphured* MOLASSES . . . *the molasses that made molasses flavor famous!*

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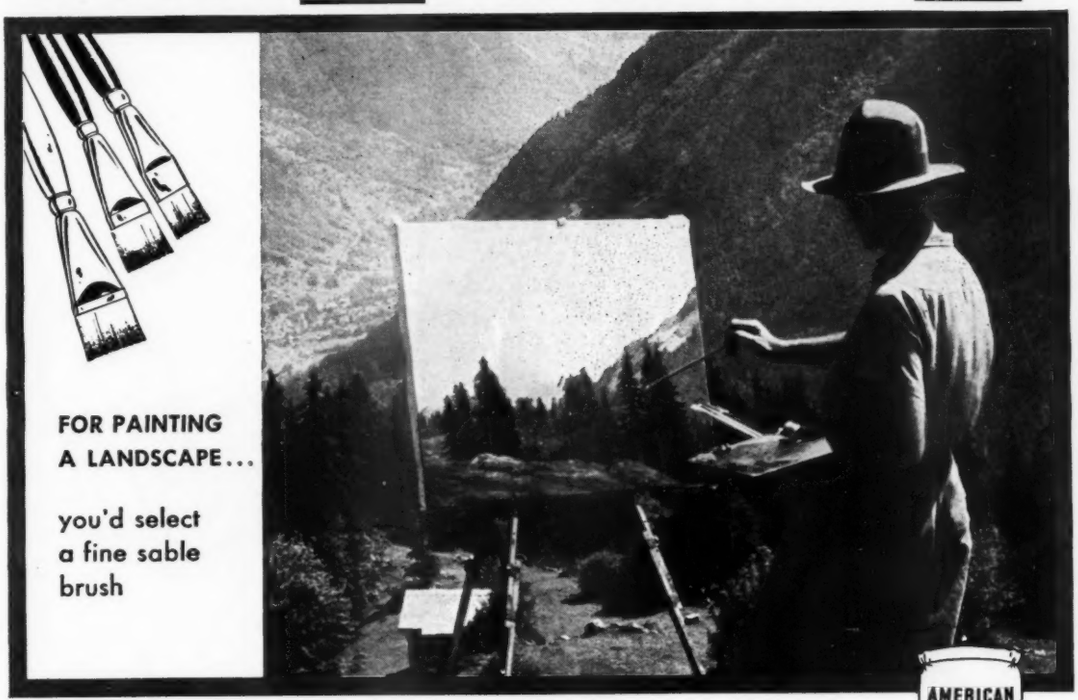
LIGHT FRUIT CAKES—*it's the levulose in* NULOMOLINE that prolongs freshness in cakes, cookies, and icings. *Balance your formulas* with Nulomoline by replacing a portion of the granulated sugar with a similar weight of Nulomoline.

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Choose AMERICAN BEAUTY Cake Flour!





GOOD RESULTS—whether it's in landscape painting or baking, have one thing in common. Both begin with choosing the right "ingredients". For baking delicate, high ratio white layer cakes, sponge or angel food, you can't buy a better flour than American Beauty Cake Flour. American Beauty will carry high percentages of shortening—up to 140% sugar. It will give you high, velvety textured cakes that keep their original fresh-flavor longer.

For customer pleasing pastries, pies, cookies and "semi-cake" baked goods, White Spray Pastry flour is "tops".

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Your Russell-Miller representative can tell you more about these, and other bakery flours to fit your own requirements. He's anxious to talk with you. Just drop us a letter, wire or phone.

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Bakery Flours

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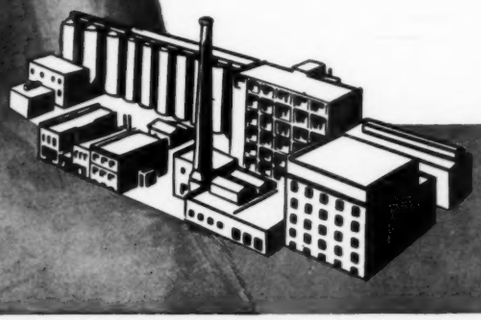
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These high-protein flours are tops in their field, headed by . . . KING HUBBARD . . . truly an outstanding pure-spring high-gluten flour. Hubbard Milling know-how assures constant uniformity.

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HUBBARD MILLING COMPANY
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Sara Lee Appoints Ohio Distributor

CHICAGO—Kitchens of Sara Lee, Inc. has announced the appointment of Beatrice Foods Co. as its Cleveland and Akron (Ohio) distributor. Beatrice Foods Frozen Foods Division, 1220 West 9th St., Cleveland, will distribute the products in the Greater Cleveland area and Akron distribution will be handled by Beatrice Foods office at 841 South High St. in that city.

The introduction of its products into the Cleveland-Akron areas marks Sara Lee's third major expansion in less than two months. Colorado, Wyoming and the Pittsburgh area distribution was opened last summer.

The Sara Lee line is now sold in 17 states, mainly in the midwest, and also in Texas and Oklahoma.

The cakes are distributed as fresh baked goods within a 300-mile radius of Sara Lee's Chicago bakery, and are fresh-frozen in the company's kitchens for shipment to other parts of the country.

——BREAD IS THE STAFF OF LIFE——

Bakers, Allied Trades Group Stages Outing

NEW YORK—The Bakers and Allied Trades Division, Federation of Jewish Philanthropies of New York, held its first outing and golf party Aug. 24 at the Sunningdale Country Club, Scarsdale, N.Y., with more than 50 in attendance. Co-chairmen for the affair were Saul H. Yeager, sales manager of the National Yeast Corp., New York, and David M. Levitt, president of the Doughnut Corporation of America, New York.

Winners in the golf competition were Samuel R. Strisik, head of S. R. Strisik Co., New York, first low gross; Charles F. Karkalitz, Jr., of Hoffmann-La Roche, Inc., Nutley, N.J., second low gross; Kenneth Goldman, National Yeast Corp., New York, third low gross; Harry Rosenblatt, area sales manager of Standard Brands, Inc., New York, first low net; Arthur E. Levy, sales manager, Joe Lowe Corp., New York, second low net; and Wayne R. Rutherford, district sales manager of Standard Brands, Inc., New York, third low net.



Bakery Union Locals Boost Boss's Bread

Two Stevens Point (Wis.) union locals have been placing newspaper advertisements in localities where the employing bakery sells its products boosting "Bake-Rite" and "Home Style" bread. The ads say: "Thank you every time you buy a loaf of Bake-Rite or Home Style bread. One hundred per cent union made. One hundred per cent union delivered. When union made products make good, that is good for labor."


Bill Lingren

The ads, which have appeared in Madison, Stevens Point and Wisconsin Rapids newspapers, are paid for by local 354, General Drivers Union and Local 387, Bakery and Confectionery Workers Union.

John Arnold, Wisconsin Rapids business agent for both locals, says that the purpose of the ads is to get more people, especially union men, to purchase the product, increasing drivers' commissions and enabling the workers in the bakery to get a better wage.

"By advertising the employer's product, we help the drivers' business and provide more work for the inside people," Mr. Arnold said.

Mr. Arnold is reported as indicating the unions run ads "when business begins to fall off, or where there is serious competition from non-union bakeries." Although the ads plug the fact that bakery goods are union made. They do not attack non-union competition. The ads are not scheduled, but are only run periodically when and where business conditions seem to call for them, according to Mr. Arnold.

Young Men Predominate in AIB School

Industry spokesmen who fear there will be no young men to replace them may take courage from the current class at the American Institute of Baking. Forty-six men are enrolled, and since their average age is 27 years, they may be regarded as being at the start of their careers.

All of the students are high school graduates, and several have college backgrounds. High school graduation and two years of production experience are the minimum entrance requirements of the school, which seeks the most promising men in the industry to train for greater responsibility. Exceptions are scholarship students, for whom the experience requirement may be waived in order to attract outsiders into a baking career.

Baking Science and Technology, offered twice each year by the AIB school, is a five-month course with emphasis on theory and science. Production and laboratory sessions are experimental in nature, and planned to illustrate the scientific principles taught in class sessions.

Members of the current class who successfully complete their studies will be awarded certificates of graduation on Dec. 17, 1954.

Time Clocks for Bakers

In the old days, employees protested against time clocks—and it was the boss who wanted to install them to keep check on employees.

But earlier this year, bakery shop owners in Chicago granted an unusual union request. The bakers union had asked for the installation of time clocks, and the shop owners agreed. The union president said that the union wanted time clocks as a means of reducing grievances and eliminating disputes over time worked and money due.

The retail bakers association consented to the installation of time clocks in shops with three or more full-time bakers, if the employees wanted it.

——BREAD IS THE STAFF OF LIFE——

BIE Day

The Firch Baking Co. of Erie, Pa. joined with other industries in the city in sponsoring the city's first Business - Industry - Education Day whose purpose was to give teachers a first hand view of the business world at work. Similar programs are being cooperated with by the baking industry in every locality.


Bill Broach J. W. Powell Galen Gibb

SUTHERLAND PROMOTIONS—Sutherland Paper Co. has announced several changes in its field sales staff. Bill Broach, in charge of the Florida territory for the past three years, has been appointed to a newly created territory with headquarters in Detroit. Succeeding Mr. Broach in Florida will be J. W. Powell. He has had 17 years' experience in the paper industry, the last 13 of which have been in the food and industrial packaging fields. In addition, Mr. Powell has been on special assignments with Sutherland for nine months. Galen Gibb, with Sutherland for five years as assistant manager of specialty sales in the western territory, has been assigned a regular sales territory. He will service the jobbing trade and has had 18 years' experience in this phase of the paper industry. Mr. Gibb's headquarters will be in Kalamazoo. Max Carraway, who has had the Kalamazoo territory for the past year, will continue in the same but expanded territory where he will concentrate his efforts on direct accounts.



NEXT SEASON'S PLANS — Getting their heads together over plans for the year ahead are the new slate of officers of the Master Bakers Association of Greater Boston following their election at the annual meeting in June. Left to right: The financial secretary, Peter Dacko, Arlene's Pastry Shop in Wollaston; president, William Ohlin, Ohlin's Bakery, Belmont; recording secretary, William Meade, National Yeast Co.; vice president, James O'Brien, Anne Marie Bake Shop, Dorchester; and treasurer, Max Todd, Ideal Bakery, Dorchester.

Management for Profit

Hidden Traps in Cost Control Can Catch the Inexperienced Bakery Manager, Boost Expenses

By George J. Emrich
Contributing Editor

In the management of a bakery, perspective is as important as energy, experience or capital. Without it, of course, other assets may be frittered away in fruitless endeavors that never advance the company a step beyond its competitors. You will find managers whose consuming passion for more volume leads them to produce any product any customer may desire, no matter how profitless. Others, equally singleminded, can focus the lenses of their minds only on sanitation problems, accounting records or advertising blitzes, to the exclusion of all else.

One bakery manager was distressed with a record of vanishing profits over a period of several months. It was puzzling, too, for he had worked like a Trojan at the problem of controlling ingredient use. Not only had he purchased his materials shrewdly and economically, but he had reduced scaling losses to a minimum and had cut sizes of rolls and doughnuts so cleverly that the consumer had not complained. As a result, his profit and loss statement showed that ingredient use took a smaller bite out of the sales dollar than ever before. Yet there were no profits! Why? Because of managerial myopia.

Other Ballooning Costs

While he had been raging at the divider operator, the mixer, the bench-hands and the foreman about the dollars lost in material handling, other shop costs were ballooning up beyond belief. Overtime became excessive and stayed there, unnoticed. The shop became messy and another janitor was added to the crew. Oven fuel and steam costs rose as the working schedule developed long gaps. Breakdown of equipment caused expensive delays that were unwarranted by any standards. When the bemused manager finally regained his perspective, thousands of dollars had been lost beyond recapture.

"Unending Crisis"

Actually, the bakery manager of today operates in what must seem to be a time of unending crisis. His attention is wrenched from the annual problem of a new labor contract to be confronted with that of a suddenly active competitor, or to the confusion and disruption of new equipment installations or to the task of replacing a lost executive. What he needs is a periodic fever chart of his operations, such as the Cost Report suggested in our recent articles. These summaries of cost, of course, compare the bakeries of other areas with his own—in terms of efficiency. With such a record before him, the manager finds it difficult indeed to ignore shop costs as was done by the baker in the above anecdote.

The figures presented in our illustration, naturally, are fictitious, representing the performance of no known bakery. The format, however, is typical of that used in the Cost Reports furnished by such organizations as the American Bakers Cooperative, the Quality Bakers of America Cooperative, W. E. Long Co. and others. The theory behind such comparisons is that, barring certain regional differences in wage costs, it should be possible for a bakery to match the efficiency of other bakeries in other parts of the country.

Wide Variety of Expenses

The illustration we have chosen reveals the wide panorama of expenditures that confront the manager from the shop alone. Some of these, of course, are not directly controllable, being financial items. And, since the Cost Report is computed upon a basis of costs per hundred pounds of baked weight, they vary more from fluctuations in volume than from the efforts of the manager. Depreciation charges, insurance costs, and interest payments are not, therefore, items of daily concern to the manager.

It will be noted that the comparative statement of shop expense, as reproduced here, gives the bakery operator three approaches to an expense that is controllable—labor cost. Not only may he compare his average hourly wage with other bakers throughout the land, but he may also view the same problem in terms of pounds produced per man hour and the cost of labor per hundred pounds of baked weight. Production per man hour is further divided to compare efficiency in machine and hand shops separately as well as to measure output in wrapping departments.

The average hourly wage, of course, is chiefly governed by the terms of the labor contract, a fact which may tend to delude the manager into a conviction of helplessness. This is unwarranted. Often a detailed study of shop conditions will reveal higher rates are being paid for work which is actually in a lower classification. Three mixers, for example, may be employed when only two are needed. This means that each man is filling out his time by working at labor normally in a lower bracket. Careful scheduling may enable the shop to use only two mixer operators, dropping the third man into a lower bracket. A familiar phrase in labor contracts provides that workers get the higher rate if they work only 13⅓ hours per week at a higher clasification job. This often results in several bench helpers being paid as bench hands, oven feeders as oven operators, scalers as mixers, and so on.

A little analysis will reveal that many of these employees "creep over" into the better paying bracket by relieving for lunches or by filling in for absent employees under the rotated five-day week. Often a tolerant foreman will ignore this increased cost in the hope of cementing better relations with his crew. As a consequence the manager finds his crews made up principally of high-priced labor with only a minimum number of helpers. He can rectify this by holding the foreman strictly accountable each week for the cost of labor. He can also suggest that a "relief man" be appointed in each crew to substitute for all absent workers. Lunch hours and "breaks" can be set up in sequence, moreover, so that no two men can be absent at once. Failing that, of course, the whole crew can be shut down simultaneously for such periods, eliminating the problem of relief.

The average hourly wage is also inflated by overtime, usually paid at half again the rate for normal work. Since such a premium may be necessary for work performed in excess of five days in a week, over eight hours in a single day or over 40 hours (or even less) in a week, the manager often tends to view overtime with a sense of despair and helplessness. This is particularly true during vacation time.

Enlightened Supervision

The key to this problem lies in enlightened supervision. The foremen or the superintendent must be held directly responsible for the hours consumed in each working day. Foremen should be required to compute the time cards of their crew members at the end of each day. In this way they are made closely familiar with the time worked by their men. They can then ask themselves, or better still, their crew, "Why did Joe Doakes get in nine hours of work, while Tom finished in eight?" Or, "Why did the crew use a total of 50 hours today, whent they finished a larger order yesterday in 47?" This self-examination, added to the prodding interest of the manager, can help immeasurably in reducing unjustified overtime.

Variety shops, of course, find the problem of scheduling work far more complex than straight-line bread shops. That is why, or partly the reason for, the range of pounds per hour varies so widely from plant to plant. Yet a great many of the laggards in production output per man hour could improve their record by using tighter shop schedules. In some bakeries the superintendent or foreman controls this by computing the number of doughs needed by the mixer and marking the time for their emergence on the mixing sheet. Thus, when the crew reports for work, as ordered, each man may look at the mixing sheet and know, to the minute, when he will be leaving for home. During the day, of course, the foreman glances at the sheet from time to time and checks if the production is falling behind schedule.

Adaptable to Variety

This system works best in straight-line shops, obviously, but it can be adapted to variety shops, where great, unexplained gaps in production are more common. Some people work at this problem from the other end of the line, by charting the ovens against their capacity. A start is made by posting a large sheet beside each oven, divided into squares. Each square represents 15 minutes of oven time. An "X" is put in each square in which the oven has been found to be fully occupied. A diagonal line is drawn for the intervals in which the oven is only partly filled. A blank square indicates that nothing passed through the oven at all during that period. At the end of the day the superintendent may be surprised to find that a large portion of the schedule found the ovens only partially used.

He may then review his operations rationally, marking the sheet critically. This gap, he reasons, was caused for a necessary lapse to cool the oven for a different product. That gap was caused by a break for lunch. Yet a number of other blanks may indicate that there was idleness back in the production area, indicating free time that might be adjusted by tighter scheduling.

After an improved schedule has been instituted, the manager may find it possible to trim minutes off here and there to save an aggregate hour for a whole day. It is found, perhaps, that it is possible to have the doughs come down every 14 minutes instead of 15, provided the divider and overhead proofer can be speeded up. This is predicated, too, on a study of oven capacity, for that



Contributing Editor

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George J. Emrich

determines the ultimate speed of the production.

In plants where the wrapping department receives the bread or rolls from a cooling conveyor the speed of the wrapping machine is not subject to the control of the operator. He can move no faster and no slower than the flow of products toward him. In less fortunate bakeries, however, a good deal of lost time can arise from lack of scheduling. Lacking the close visual supervision of the inner shop, the operator may easily squeeze an extra hour of overtime out of a normal day. It is suggested, therefore, that he too be put on a schedule, keyed to the shop. He should punch in at a definite interval after the first loaf comes from the oven. He should punch out at a correspondingly set lapse after the last loaf is dumped.

Where the wrapping and icing may be combined in one crew, as in a large variety production, the foreman should bunch his varieties in such a way as to keep a constant flow of products to the packing table or conveyor. Unless shrewd organization is used here, a crew of several women may find themselves idle for costly waiting periods several times a day. Any wrapping or finishing operation that involves a number of hand-made varieties offers a continuing challenge to supervision.

The cost of wrapping supplies is an item of expense that seems to grow more fantastic each year. The effort to provide an attractive protective covering for the product has forced the baker to allocate more of his sales dollar to expensive trays and papers. While no individual manager can reverse this trend, he can satisfy himself that he is getting adequate mileage out of his supplies. This may lead to redesign of a bun tray, to pare off a needless quarter inch of board, or to ordering his paper in larger combinations to cut costs. Better handling of stored paper rolls and careful training of wrapping machine operators can help. The constant watching of overlap on bread loaves may save hundreds of dollars a month.

Janitor service and the cost of cleaning supplies has been a growing factor of shop expense since the renewed consciousness of sanitation, only too well-advertised, has taken

(Continued on page 60)

Comparative Statement of Shop Expense

PLANT No.	Average Hourly Wage Direct Labor	Average Production per Man per Hour: Direct—Machine Made	Direct—Hand Made	Direct—Total	Wrapping and Slicing	Wages Slicing and Wrapping	Wrapping Supplies: Opaque per 100 lbs. Wrapped	Transparent per 100 lbs. Wrapped	Slicing Supplies per 100 lbs. Sliced	Kilowatt Hours per 100 lbs. Baked	Total Wrapping and Slicing Cost	Superintendence	Direct Shop Labor	Miscellaneous Shop Help	Fireman	Janitor Service and Supplies	Steam Fuel	PLANT No.
1	1.784	193#		193#	498#	.361	.744	.882		3.21	1.131	.200	.926	.155		.154	.132	1
28	1.748	235#		235#	455#	.285	.653	1.816			1.293	.110	.743		.034	.188	.093	28
5	1.151	189#		189#	358#	.322		1.427		1.25	1.749	.227	.610			.074	.013	5
10	1.542	166#		166#	412#	.363	.527	1.480		4.45	1.469	.203	.926	.074	.070	.269	.075	10
2	1.352	169#		169#	543#	.220	.796	1.225			1.341	.211	.800	.045		.046	.122	2
11	2.089	165#	40#	121#			1.172				1.620	.137	1.721	.060	.124	.305	.073	11
12	1.505				362#	.448					1.030	.173	.991	.086	.247	.005	.054	12
		252#	31#	152#	465#	.309	.437	1.385				.042	.704	.272				
19	1.146	163#		163#	528#	.208	.495	.670		4.02	1.373					.187		19
27	1.744	130#	199#	126#	310#	.529	.586	2.257		5.32	1.943	.171	1.385		.098	.289	.123	27
29	1.201	138#		138#	331#	.278	1.096	1.204			1.470	.165	.871			.132	.093	29
3	1.283	202#		202#	316#	.397	.940	1.234			1.552	.180	.636	.123		.265	.098	3
20	1.476	124#	46#	84#	191#	.639	.836	2.629			1.835	.219	1.753	.118	.057	.351	.101	20
21	1.327	154#		154#	424#	.272	.737	1.174			1.321	.123	.862	.064		.152	.117	21
4	1.696	153#		153#	382#	.375	.743	.991		3.87	1.222	.183	1.109	.096		.230	.123	4
	1.506	187#	67#	171#	408#	.348	.701	1.413		3.51	1.401	.167	.978	.102	.100	.193	.090	AVERAGE
																		Above or Below Average per Unit
																		Amount Above or Below Average

Comparative Statement of Shop Expense (Continued)

PLANT No.	Oven Fuel	Light and Power	Ice, Refrigeration, and Water	Shop Supplies and Miscellaneous Expense	Repairs: Building	Machinery	Oven	General	Depreciation: Building	Bread Pan	Oven	Machinery	Tool and Utensil	Insurance: Fire	Liability	Interest on Investment	Total Shop Expense	PLANT No.
1		.075 7	.001 1	.076 24	.061 23	.204 27	.040 24	.284 7	.066 24	.037 5	.028 2	.141 3	.030 3	.006 1	.058 26		3.805 24	1
28	.073 2	.111 25	.015 23	.071 7	.052 6	.048 4	.013 7	.026 1	.049 5	.057 26	.032 4	.136 1	.011 2	.030 24	.023 6		3.208 1	28
5	.099 7	.027 2		.139 27	.142 28	.137 24	.001 2		.031 3	.053 24		.205 23		.029 23	.006 2		3.542 5	5
10	.079 5	.072 5	.009 4	.140 28	.045 5	.259 28	.010 5		.079 26	.010 1		.164 4			.086 28		4.039 26	10
2		.053 3	.010 6	.050 5	.089 24	.037 2	.009 4	.119 5	.079 26		.058 25	.171 6		.016 5	.011 3		3.267 2	2
11	.082 6	.136 27	.022 26	.043 4	.021 1	.037 2	.002 3	.082 3	.253 29	.038 6	.048 7	.353 29	.002 1	.117 28	.026 23		5.302 27	11
12	.099 7	.006 1				.272 29			.066 24						.014 4			
	.170 26								.029 2	.016 2								
			.053 27	.137 26	.114 26							.235 26		.046 25			3.628 7	
19		.137 28	.076 28	.021 1	.232 29	.077 6	.011 6				.088 6	.165 5		.014 3	.002 1		3.294 3	19
27	.073 2	.079 23	.009 4	.071 7	.059 7	.185 26	.000 1	.051 2	.049 5	.038 6	.061 26	.341 28		.019 7	.060 27		5.376 28	27
29	.103 24	.055 4	.002 2	.034 3	.031 4	.086 7			.044 4	.055 25	.025 1	.261 27		.075 26	.023 6		3.525 4	29
3		.090 24	.011 7	.029 2	.022 2	.096 23	.056 25	.205 6	.091 28	.073 27	.053 24	.219 24		.017 6	.026 23		3.812 25	3
20	.112 25	.163 29	.021 25	.160 29	.119 27	.015 1			.057 7	.020 3	.033 5	.136 1		.087 27	.036 25		5.393 29	20
21	.063 1	.111 25	.015 23	.076 24	.106 25	.161 25	.015 23		.057 7	.042 23	.052 23	.233 25		.015 4	.016 5		3.601 6	21
4	.077 4	.073 6	.007 3	.059 6	.025 3	.072 5		.109 4	.023 1	.031 4	.029 3	.175 7		.011 2	.117 29		3.771 23	4
AVERAGE	.090	.086	.020	.071	.083	.117	.015	.119	.076	.037	.040	.217	.015	.039	.038		4.094	
Above or Below Average per Unit																		
Amount Above or Below Average																		



Crusts & Crumbs

FROM THE EDITORIAL SLICER

By Carroll K. Michener

Food Fads a Health Problem

By HORACE L. SIPPLE, Executive Secretary, and CHARLES GLEN KING, Scientific Director, The Nutrition Foundation, Inc.

OUR food supply is the best we have ever had. We live in a land of plenty with enough of all the nutrients available to furnish an ideal diet for our entire population. Protection of our food supplies by industry and by public law has set a high standard for several decades, and the foods vailable in our markets are as attractive and flavorsome as one could find anywhere. These achievements must not make us complacent, however.

In spite of the progress made in improving our food supply to make it adequate for the nation's health, food faddists have been allowed to flourish. Their activities have increased and extended until it has been estimated that nutrition quacks are influencing some 10 million of our people. The health of a significant number of these persons is being endangered through following the diet of the faddist, delaying necessary medical treatment until it is too late for ethical medical care to be of value. About half a billion dollars is spent annually for "health foods," "health aids," and "diet supplements," all products for which no real need exists. Food faddism is a serious health and economic problem.

Nutrition quackery has been known in various forms for many years. It is of utmost importance that we recognize food faddism as an increasingly serious problem, understand how and why it continues to exist, and make an all out effort to expose and offset the activities of the faddists.

It is easy to see why food fads have found followers and why the number of supporters has increased in recent years. The faddists and nutrition quacks carry on a successful scale campaign, playing upon natural fears of ill health, and hopes for good health, for long life and freedom from disease. The faddists seek to persuade all who will listen that everyone is suffering from ills caused by diet deficiencies and these self-styled "food experts" promise that all difficulties can be relieved quickly, easily, and without effort by following their theories and recommendations.

Such claims and promises have a strong appeal and all too often are accepted without question. The public has become increasingly conscious of the relationship between food and health. Many persons seeking nutrition information quite naturally tend to follow the course of accepting the attractive and plausible on the basis of their own knowledge, experience, or wishful thinking. Most important, the faddist brings his story to the public and gains attention and interest by making his appeal in a dramatic fashion in words readily understood by all. An aggressive salesman, he knows the truth of the saying, "You have to make calls if you want to get results."

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BALINESE BEAUTIES AND THE BLOOD SUGAR LEVEL — Research indicates that human hunger for food is related to the blood sugar level. When the blood sugar level is high the sensation of hunger is absent; but as the level drops, hunger makes itself manifest. If the blood sugar level can be maintained just high enough, the onset of ravenous hunger will be forestalled. Dr. Fredrick J. Stare, head of the Department of Nutrition at the Harvard School of Public Health, observed after a trip to Bali that he had never seen a fat woman on that delightful isle. The Balinese feminine comeliness is attributed partly to moderate exercise but perhaps more to the native habit of taking light snacks of food six or seven times a day instead of eating the "three square meals" traditional to our advanced civilization. —*Corn, the quarterly publication of the Corn Industries Research Foundation, Inc.*

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BUSINESS DICTIONARY — "The Dictionary of Business and Industry," edited by Robert J. Schwartz, practicing attorney, clearly defines 45,000 business and legal terms. It has just been published by B. C. Forbes & Sons Publishing Co., Inc., 80 Fifth Ave., New York 11, N.Y. (price $7.95).

The idea for the dictionary came out of the editor's search for a business dictionary to fit the needs of a client who wished to distribute it to 400 branch offices to standardize business terminology. Important sources were approached, such as the New York Public Library and the U.S. Department of Commerce. A careful research revealed that there was no one comprehensive source of definitions of business and industry.

To supply this important business tool, Mr. Schwartz set out to assemble, classify and edit a dictionary of business and legal terms. More than 1,000 leading trade associations were contacted for lists of business terms. Leading businessmen in key industries were consulted. Specialized glossaries were procured for the herculean task of assembling the most commonly used business, trade and legal terms. Each term was carefully defined and was earmarked for the dictionary if it qualified as to business usage. A total of 45,000 business terms is included in the finished volume — most of which cannot be found in the average home, office or collegiate dictionary. Thousands of trade abbreviations (c.i.f. type) are explained and defined.

In addition, the dictionary contains 36 pages of valuable time-saving charts and tables such as Coins and Notes of the World, Foreign Weights and Measures, Weights of Materials, Foreign Trade Definitions, Conversion Factors, Square Cubes, Square Roots and Cube Roots, Units of Measurements, etc.

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SUGAR PRODUCERS share the problem of the "fattening phobia" with millers and bakers. The kinship goes even further, since so much sugar is used in cakes, pies, pastry and sweet goods. In the past 10 years, the sugar people have spent more than a million dollars in research and are currently committed to the expenditure of another million-and-a-half dollars.—*Wheat Flour Institute.*

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Paper shipping bags are now about 100 years old. In mid-Nineteenth Century, the first paper bags in the U.S. were made laboriously by hand, with shears and paste pot.



TESTER—A cereal technologist at the Central Experimental Farm, Ottawa, displays the dough expansion tester, a device which indicates the baking qualities of new wheat varieties by measuring expansion of the dough in the early stages of fermentation. At the extreme right is shown a volume apparatus that measures the size of the small loaf of bread used in the baking test. The loaf of bread is placed in the container at the top. A similar container at the bottom of the graduated glass tube is filled with turnip seed. Inverting the tube permits the seed to run down and fill the space above the loaf of bread in the container. As the loaf displaces the seed it is forced up the tube and the size of the loaf is measured by the height to which the seed rises in the tube.

Dough Expansion Tester Developed To Measure Baking Quality of Flour

TORONTO—A simple dough expansion tester has been developed by cereal chemists at the Canadian government's central experimental farm in Ottawa. The new tester, developed from experimental earlier models, measures the baking qualities or samples of wheat flour in about one half the time and with one twentieth of the quality of flour required for the standard baking test. Results are claimed to be accurate.

The chemists do not claim that it is a full substitute for the baking test but they assert it does give a reasonably accurate measure of the baking qualities of flour from different strains of wheat grown under the same conditions. This enables the cereal breeder to know which of the hundreds of new strains he has produced in his breeding plots are worth carrying on for further testing.

Method of Testing

Tests are made by mixing 5 gm. flour with carefully measured quantities of the necessary water, salt, sugar, yeast and other ingredients used in breadmaking, and kneading the mixture into a small ball of dough. This dough is placed in a container in a water bath and kept at 36° C. for 45 minutes, to start the fermentation process. The ball of dough is then placed on the prong of the dough holder to suspend it in the test jar. The jar is filled with a dilute salt solution and the top screwed on, forcing the solution up the graduated tube. Enough of the solution is drawn off to level it to the zero mark in the tube, the entire unit is returned to the water bath and expansion due to fermentation allowed to go on until the dough ball begins to break down, a period of from 19 to 38 min., depending upon the quality of the protein of the flour.

As the dough expands it forces the salt solution up the tube and the amount of the expansion can be measured on the graduated tube. The tube is marked in terms of milliliters. A high strength dough of good baking quality may cause an expansion of 18 milliliters, a low strength dough about eight.

Advantages

Chief advantage of the expansion test is the small quantity of flour required—20 gm. for a triplicate test as compared with 400 gm. for a baking test. Early generations from crossing two strains of wheat can only produce a small quantity of grain. By obtaining a measure of the baking qualities of the new strain with the small quantity required in the dough expansion test, the wheat breeder is saved the necessity of carrying inferior strains through the two or three additional generations required to produce enough grain for a baking test.

The expansion test was developed primarily for measuring the baking qualities of high protein spring wheats. Recently it has been found equally accurate in determing the pastry-making qualities of flour from soft winter wheats, widely grown in Ontario and of increasing importance in southern Alberta.

The major difference in applying the test to winter wheats is that the best pastry flours are low in protein and high in starch content. To measure quality in winter wheats, therefore, calls for a low reading in the expansion test, instead of a high one as for strong wheats.

FORMULAS

(Continued from page 19)

the brown sugar to eliminate lumps. Dissolve the soda thoroughly. Do not chop the apples too fine.

Apple Pie Filling
(Vacuum Dried)

Soak overnight:
5 lb. apple slices (vacuum dried)
16 lb. water
Add:
16 lb. water
2 lb. 8 oz. sugar

Place on a stove and bring to a good boil. Then stir in, after mixing together:
1 lb. starch
4 lb. water
Cook until clear.

Remove from the stove and add, blended together:
5 lb. sugar
2 oz. salt
1¼ oz. cinnamon
Then allow to cool thoroughly before using.

Note: If desired, a small amount of lemon juice may be added in order to produce a more tart taste.

APPLE CHEESE ROLLS

Mix together:
1 lb. 8 oz. sugar (sucrose or dextrose)
12 oz. milk solids (non fat)
5½ oz. salt
1 lb. 8 oz. shortening
Add gradually:
8 oz. egg yolks
Mix together and add:
14 oz. yeast
8 lb. water (variable)
Then add and mix until nearly smooth:
17 lb. bread flour
1 lb. 12 oz. dehydrated cheese
Then add:
5 lb. chopped cooked apples

Dough temperature 80° F. Punch in about 1 hour, 45 min. To the bench 30 min. later. Scale into pieces, weighing 2 lb., 6 oz. and round up. Allow to rest for about 15 min. to 20 min. and then run through a bun divider. Then make up into variety of luncheon dinner rolls. Place on well greased pans and allow to proof. Bake at about 390° F.

Note: Do not overcook the apples. Have them slightly firm and drain well. Use the drained liquid in the dough. If desired, the amount of cheese used may be varied to suit individual taste.

APPLE TURNOVERS

Roll out a piece of puff paste dough about ⅛ in. thick. Cut with a sharp knife into 5 or 6 in. squares. Wash the edges with water and fill the center with prepared apple filling. Then fold the pieces so that they form a triangle. Seal the top and bottom edges by pressing down on them with the fingers. Wash the tops with an egg wash and then cut a slit in the top with a sharp knife, to allow the steam formed during baking to escape. Allow to rest before baking. After baking, powdered sugar may be sifted on them, or they may be iced with a thin water icing or glaze. The dough for the turnovers may be cut with a 5 or 6 in. round cutter if desired. This will form a half circle when filled and folded. Oblong turnovers may be made by cutting the pieces of dough about 6 in. by 4 in. and then folding them so they will be about 6 in. by 2 in.

Note: For turnovers, usually the same filling is used as for pies.

Apple Fruit Filling or Topping
(For Coffee Cakes)

Mix together:
1 No. 10 can chopped apples
1 lb. 4 oz. granulated sugar
1 lemon grating and juice
½ oz. salt
⅛ oz. cinnamon
Add:
8 oz. ground citron
4 oz. ground orange peel
Then add:
8 oz. currants
8 oz. seedless raisins
4 oz. flour

APPLE NUT BREAD

1 lb. sugar (brown)
12 oz. milk solids (non fat)
8 oz. egg yolks
10 oz. shortening
6 lb. cooked and drained apples or unsweetened apple sauce
1 lb. 8 oz. chopped pecans
6 oz. salt
½ oz. cinnamon
1 oz. yeast food
8 oz. yeast
18 lb. bread flour
1 gallon water (variable)

Procedure: Dissolve the yeast in part of the water. Dissolve the other ingredients except the shortening and pecans in the mixer with the balance of the water. Add the flour and when partially mixed add the yeast solution and then add the shortening. When the dough is about ¾ mixed, add the chopped pecans and continue mixing until the dough is smooth and well developed. The dough should be stiff. Dough temperature 80° F. First punch, approximately 1 hour, 30 min. Second punch 45 min. To the bench, 15 min. later. Scale and round up. Allow to rest for about 15 to 20 min. and then make up. Bake in regular white bread pans. Allow to proof and then bake at about 425° F.

APPLE STRUDEL
Strudel Dough No. 1

Sift together:
3 lb. bread flour
1½ oz. powdered sugar
⅝ oz. salt
⅛ oz. cream of tartar
Add:
1 lb. 8 oz. luke warm water
9 oz. vegetable oil

This dough should be well mixed so as to become elastic. Allow it to rest for about 20 min. Keep the dough covered with a damp cloth. Brush a liberal quantity of oil on the bench, place the dough on this and pull out very carefully. Give the dough a little rest during the stretching process. Pull carefully so as not to tear the dough. After a period of time, the dough may be stretched as thin as paper. It may then be filled and rolled, similar to rolling a jelly roll. Place on lightly greased pans. Wash with an egg wash and bake carefully at about 360° F.

Note: Do not have the filling too moist, as the strudel will then be soggy.

Strudel Dough No. 2
(Puff Paste)

Rub together thoroughly:
4 lb. bread flour
½ oz. salt
¼ oz. cream of tartar
12 oz. shortening or butter
Then add:
6 oz. whole eggs
2 lb. water (variable)

Mix until the dough is smooth and medium stiff. Allow the dough to rest for about 20 min. and then roll out into an oblong shape about ½ in. thick. Distribute 3¼ lb. of puff paste oleomargarine over two-thirds of this dough and give it a three way fold. This is called one roll. Rest the dough about 30 min. and give it another three way fold. Repeat this operation until the dough has received four rolls. Keep the dough covered with a damp cloth while resting it between foldings.

APPLE STRUDEL

Allow the dough to rest 15 min. or longer after the last fold and then take a piece of the desired size and roll out very thin. Wash the dough with melted butter and then place the filling on it. Roll it up and place on a lightly greased pan. Wash with an egg wash. Rest about 15 min. and then bake at about 360° F. The baking of apple strudel should be done carefully. It takes quite a while to bake through. When not properly baked, it will be soggy and raw in the center.

Strudel Filling

Mix together:
4 lb. fine chopped apples
1 lb. seedless raisins
1 lb. 8 oz. sugar
½ oz. salt
¼ oz. cinnamon
12 oz. macaroon coconut
4 oz. fine ground citron
8 oz. fine chopped pecans
4 oz. fine chopped glaced cherries

Variations in this formula may be made by increasing or decreasing the various ingredients.

APPLE TARTS

Roll out a piece of puff paste dough to about ¼ in. thickness and cut out pieces with a 3 in. scalloped cutter. Roll each of these pieces out a little thinner, with a rolling pin, into oval shape. Place 6 or 8 slices of apple on each one and sprinkle a little cinnamon sugar on top. Rest for about 15 minutes and then bake at about 360° F. After baking, powdered sugar may be sifted on top, if desired.



Clifford B. Hanson

Names New Officers

OMAHA—Clifford B. Hanson, manager of bakery flour sales in recent years for the Nebraska Consolidated Mills Co., has been named a vice president of the company, according to an announcement this week from J. A. Mactier, president. The new company officer has been with Nebraska Consolidated since 1934 and has been bakery sales manager since 1949. Before joining the company he was with Pillsbury Mills, Inc., and the International Milling Co.

The appointment was made at a meeting of the board of directors in Omaha recently. At the annual stockholders meeting held prior to the directors' session, Edward M. Curtis, Sr., was elected a director of Nebraska Consolidated.



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Bakery Merchandising

Bakery Production Men Hear Homemakers' Opinion of Baking

By WALTER C. SMITH
American Baker Editorial Staff

Three women newspaper and magazine food editors told bakery production men attending the Sept. 13 meeting of the Metropolitan Bakery Production Club, Inc., New York, that housewives are very interested in nutrition, quality and recipes.

Representing "Mrs. Consumer" on a discussion panel were Janet Cook (Miss Margaret Pettigrew), food editor of the New York Journal-American; Miss Blanche Stover, Parents Magazine's food eidtor; and Julie Lee Wright (Miss Grace White), food editor of Family Circle magazine. Bakery production men answering to the ladies included Walter Jacobi, Ebinger Baking Co., New York; Fred Weberpals, H. C. Bohack Co., Inc., New York; and Edward F. Holterhoff, MI-Oun Cake Co., Paterson, N.J.

Bread bakers were told "Mrs. Consumer" wants a soft, tender loaf of bread with a firm, crisp crust in an attractive and descriptive wrapper containing a window through which the product was visible, and suggestions were made for improving quality of cakes and providing more recipes on use of cake products, particularly popular dessert shells. There were some comments that retail bake shops could improve their sanitation programs.

Miss Pettigrew commended bread bakers for "doing a wonderful job," but questioned whether the group was aware of its accomplishments by citing the enrichment program and how it has wiped out vitamin D deficiency. She said there is an increasing interest in nutrition, yet bakers seem "quiet on what's in the bread." Bakers were advised by Miss Pettigrew not to give serious consideration to diet and low calorie faddism, since food, she said, was not fattening in itself but rather more often unwisely overeaten.

A need was also expressed by some consumers for a small loaf suitable to requirements of a couple, and an increase in slice thickness for those who appreciate "sinking their teeth into a substantial p i e c e of good bread." A market was seen by Miss Pettigrew for "do-it-yourself" bread doughs, and summarizing her comments, she told bread bakers they "had reached the peak of quality and should now concentrate on increasing sales by improving size, wrapper and form."

Mr. Weberpals agreed the younger generation was diet conscious and associated bread with starch. He used the fact that premium loaves sell well as conflicting with the "squeeze test" theory for freshness and added that both flavor and freshness sold bread, 90% of which is "soft." Bakers are in favor of a thicker slice, he told the food editors, but different attitudes of consumers pose a problem as some buyers want a thin slice and others prefer a thicker cut. Mr. Weberpals said technical problems prevented more extensive use of cellophane wrappers, and concluded his remarks by blaming "poor sendoff" as responsible for present scarcity of "Brown 'n' Serve" products.

Speaking on bakers' cakes, Miss White thought the use of foil pans was a step forward, but admonished cake bakers on their failure to tell consumers more about their product and its uses. As an example, she directed attention to seasonal nature of dessert shells and the apparent ignorance of some housewives on various ways of utilizing them in recipes. Tie-in promotions with fresh or canned fruits and suggested recipes were mentioned as possible remedies for overcoming this situation.

The packaging should enhance the cake's appearance, she said, and not hide the product. Miss White said cakes should be priced right and cost to consmers should be listed on the package. The most important consideration, she concluded, was that cakes must not only look good enough to eat, but they must taste good.

Mr. Holterhoff admitted some bakers were not telling enough about their product, and said packaging was a problem more in line with distribution than production. He added foil pans have proved an advantage to both baker and housewife and pliofilm, while good for packaging products like cookies, was unsuitable for packaging cakes.

Miss Stover told the gathering statistics indicated the average family's annual income (before taxes) in New York City in 1950 was $5,101.12 and housewives here spent $104.71 yearly for bakery products, of which $44.31 was for bread and $60.40 for other bakery goods. In contrast, $161.57 was spent annually for milk, cream, and ice cream. She pointed out New York City families spend more for food than families in any community over 50,000 population.

"Mrs. Consumer" liked convenience, variety, good values, and small bake shop displays, but showed a dislike for hard frostings, excessive sweetness, and poor keeping quality. Tie-in sales should be utilized more frequently, Miss Stover said, to increase the amount housewives spend for baked goods.

Mr. Jacobi replied bakers are improving quality since they have the knowledge and skill, in addition to better equipment and facilities than the housewife.

The food editors thought consumers would accept 20¢ as a reasonable price for a good standard loaf of bread. Despite the fact housewives generally felt it was not worthwhile to read labels completely, the women pointed out label copy should not be treated as magazine or newspaper copy as the simple label has excluded recipe and nutritional information, such as dry milk solids content, which they said was of interest. If the content was 4% dry milk solids, the consumer should be told, and if 6%, the ladies advised the bakers to "really boast."

About 110 club members and guests were present at the session.

—BREAD IS THE STAFF OF LIFE—



DOUGHNUT PROMOTION — A novel doughnut product and promotion plan has been developed by the Chapman & Smith Co., Melrose Park, Ill., to tie in with October Donut Month and afford an extra-profit item for bakers year-round. Called "Krinkles," the unusual shape adapts itself to varieties of toppings and coatings, Chapman & Smith says, and can be inexpensively cut by a specially-developed plunger for the doughnut machine. The complete package of mix, cutter, and booklet of merchandising hints includes point-of-sale promotion material such as the window streamer illustrated above.



TRAVELING BILLBOARD SALESMAN — The increased consumption of baked foods is being promoted by "moving billboards" on the sides of International Milling Co. bulk flour delivery trucks. "Buy It Baked . . . From Your Baker" is the theme of the colorful new signs. It is estimated that consumers by the thousands will see these attractive truck signs day in and day out in the many areas covered by International's bulk truck fleet. The program is designed to assist bakers in their efforts to increase the consumption of baked goods. International's bulk trucks hold about 40,000 lb. flour and can unload into a bakery in one hour.

Gladness Introduces Frozen Cake Mix

MINNEAPOLIS—The latest innovation in home baking is being introduced to Minneapolis and St. Paul housewives in a test campaign this month by Gladness Bakeries, Inc., Minneapolis.

The product is One-Step, a frozen cake mix which "the housewife need only pour into a pan and pop in the oven to bake," M. R. Olmen, Gladness president, said. Said to be the only product of its kind in the country, One-Step is being sold through the frozen-food section of grocery stores.

The product was tested and approved by a panel of homemakers in several midwestern states before receiving final okay for its public introduction, Mr. Olmen said.

He claims several advantages for the product over present conventional packaged cake mixes: no ingredients to add; no stirring or mixing; and no extra dishes or bowls to dirty.

A heavy advertising and merchandising campaign in Minneapolis and St. Paul will introduce the product to housewives. Gladness expects to move into other markets in its six-state area following this test introduction.

Fist Brokerage Co., Minneapolis, is midwest sales representative.



APPLE TIE-UP—Pictured above are the sales-making tools the Fleischmann division of Standard Brands, Inc., is distributing to the nation's bakers to help them tie-up with and take advantage of "National Apple Week—Oct. 21-30." The Fleischmann "Extra Profit Plan" (upper left) is an 11-page brochure containing everything from quality apple pie formulas to advertising and merchandising ideas—all designed to help the baker sell more and better apple pies. Pictured on the right is a suggested newspaper advertisement included in the brochure. The 9 by 20 in. poster pictured was produced in full color by the National Apple Week Assn. and is being distributed to bakers by Fleischmann for use in window and counter displays.

Edward Debus Is New Head of Nebraska Bakers

OMAHA — Edward Debus, Debus Baking Co., Hastings, was elected president of the Nebraska Bakers Assn. as the organization closed its 41st annual convention here Sept. 29.

He succeeds Henry M. Kaufmann, Kaufmann Pastry Shop, Omaha.

Other new officers are: John Dulacki, Ye Olde Pastry Shoppe, Omaha, first vice president; Richard Sehnert, Sehnert Bakery, Kearney, second vice president.

T. F. Naughtin, Jr., T. F. Naughtin Co., Omaha, was reelected treasurer and L. F. O'Konski, Standard Brands, Inc., Omaha, was renamed secretary.

Henry Kaufmann and Herbert Forbes, both of Omaha, are new delegates-at-large. Reelected delegates-at-large were Walter Sehnert, Plainview; Jake Grasmick, Grand Island; and Edward Wendelin, Lincoln.

William F. Thie, Virginia Bakery, Cincinnati, Ohio, president of the Associated Retail Bakers of America, told the delegates that the biggest challenge and the biggest opportunity for bakers are in the big growth in population.

"There is no doubt that the market is there," he said. "The people have the money and are spending more for food than ever before," he said.

However, he warned that the baker must be "alert" to the wants of the customer if he is to capture his share of the growing market.

Frank H. Schafer of Standard Brands, Inc., gave tips on cake baking.

About 175 attended the two-day meeting. No resolutions were adopted.

Dates and site for the 1955 convention will be determined later.

H. B. West, Indianapolis Bakery Executive, Dies

INDIANAPOLIS—Harold B. West, president of the West Baking Co., Indianapolis, and a governor of the American Bakers Assn. for nearly 30 years, died Sept. 23 in an Indianapolis hospital. He was 62 years old.

He was president of the West Baking Co., 1331 East Washington St., Indianapolis, which he started 35 years ago after he purchased the old Daugherty Cake Co. His home was at 4120 North Illinois St.

Mr. West had served as ABA governor, representing region 10 (Indiana and Kentucky) for almost 30 years. Mr. West was born in Syracuse, N.Y., where he got his early education, and was graduated from the University of Pennsylvania in 1913.

During World War I, he directed the establishment of the world's largest bakery overseas to serve the fighting forces. Its capacity was 800,000 lb. of bread a day. After World War I, he organized his own company in Indianapolis.

During World War II, he was a bakery consultant for the Secretary of War, participated in a large number of conferences in Washington and inspected bakeries at military installations. He was active in many civic organizations and was one of the leading citizens of Indianapolis.

——BREAD IS THE STAFF OF LIFE——

SANITATION COST CLINICS

LOUISVILLE, KY. — A coast-to-coast series of one-day cost control clinics on the subject of "Organizing a Sanitation Program Based on Work Standards" will be conducted by Industrial Sanitation Counselors, Louisville, Ky., sanitation cost control specialist, beginning in the East in January, 1955, it was announced by Mohe H. Solworth, president.

MOSTLY PERSONAL

Louis Garttner, chairman of the board, Gardner Baking Co., Madison, Wis., was guest of honor at a surprise party held at the Monterey Hotel in Janesville, Wis., in observance of the 25th anniversary of the purchase of Colvin's Baking Co., of Janesville by Gardner in 1929.

●

E. Robert Vogt, an executive of the Ward Baking Co., has been elected president of the Young Executives in Sales Club of New York.

●

E. R. Durrer, president, Givaudan Corp. and its associate companies, Givaudan-Delawanna, Inc., Givaudan Flavors, Inc., and Sindar Corp., has completed a three-month stay abroad, visiting Givaudan factories in Switzerland and France.

●

Elmer D. Morgan, Williams Baking Co., Scranton, Pa., has been awarded $100 as a fourth award in a national arc welding competition sponsored by the James F. Lincoln Arc Welding Foundation. Mr. Morgan described the welded construction of six automatic bread pan cooling conveyors. The amount saved by welding them in the bakery instead of outside was an estimated $4,000. **Carl S. Vollmerhausen,** owner of Vollmerhausen Bakeries, Ecorse, Michigan, described repairs to a revolving tray oven for which he received $25.

●

Don F. Copell, vice president, Wagner Baking Corp., Brooklyn, was guest speaker at a meeting of the Foremen's Club of Toledo, Ohio. He discussed "Don't Work Harder—Work Smarter."

●

Harvey J. Patterson, vice president and bakery division representative for Pillsbury Mills, Inc., was among the speakers at the Virginia Bakers' Council eighth annual fall conference in Natural Bridge, Va. recently. He spoke on the subject of the miller-baker team and touched on the problems of wheat surplus and future wheat markets.

●

Mrs. Henry S. French, director of the testing kitchen, Wheat Flour Institute, Chicago, has resigned. She has been succeeded by **Miss Rita Winkates,** formerly with the Evaporated Milk Assn., Chicago. Miss Winkates received her B. S. degree in home economics from Mundelein College in 1947. Mrs. French's husband is assistant manager of The American Baker's Chicago office.

CONVENTION CALENDAR

Oct. 9-11—New Jersey Bakers Board of Trade, Inc.; Hotel Berkeley-Carteret, Asbury Park, N.J.; sec., Michael Herzog, 104 Lillie St., Newark 3.

Oct. 10-12—National Pretzel Bakers Institute; Hotel Commodore, New York; Sec., Alex Tisdale, Cherry Lane Farm, Star Route, Pottstown, Pa.

Oct. 12-14—National Assn. of Bakery Sanitarians; Hotel Sherman, Chicago; sec., Jas. V. Cawley, 855 Ave. of the Americas, New York

Oct. 13-15—National Bakery Suppliers Assn.; Blackstone Hotel, Chicago; sec., Philip W. Orth, Jr., 304 E. Florida St., Milwaukee, Wis.

Oct. 15-16—Baking Industry Sanitation Standards Committee; Sherman Hotel, Chicago, Ill.; sec., Raymond J. Walter, 511 Fifth Ave., New York 17, N.Y.

Oct. 16-20 — American Bakers Assn., Sherman Hotel, Chicago; sec., Harold Fiedler, Room 1558, 20 North Wacker Drive, Chicago 6, Ill.

Oct. 17—Bakery Equipment Mfrs. Assn., Sherman Hotel, Chicago, Ill.; sec., Raymond J. Walter, 511 Fifth Ave., New York 17, N.Y.

Nov. 1—Connecticut Bakers Assn., Inc.; Hotel Statler, Hartford, Conn.; sec., Charles Barr, 584 Campbell Ave., West Haven 16, Conn.

Nov. 14-15—New England Bakers Assn.; Hotel Statler, Boston; sec., Robert E. Sullivan, 51 Exeter St., Boston 16, Mass.

1955

Jan. 16-18 — Pennsylvania Bakers Assn.; William Penn Hotel, Pittsburgh, Pa.; sec., Theo Staab, 5700 North Broad St., Philadelphia.

Jan. 22-24—Ohio Bakers Assn.; Deshler-Hilton Hotel, Columbus, Ohio; sec., Roy Ferguson, Seneca Hotel, Columbus.

Jan. 30-Feb. 1—Potomac States Bakers Assn., Lord Baltimore Hotel, Baltimore, Md.; sec., Emmet Cary, 16 McClellan Place, Baltimore 1, Md.

Feb. 6-8—Tri-State Bakers Assn.; Jung Hotel, New Orleans, La.; sec., Sidney Baudier, Jr., 624 Gravier St., New Orleans 12, La.

March 4-5—Baking Industry Sanitation Standards Comm.; Edgewater Beach Hotel, Chicago, Ill.; sec., Raymond J. Walter, 511 Fifth Ave., New York 17.

March 6—Bakery Equipment Mfrs. Assn.; Edgewater Beach Hotel, Chicago, Ill.; sec., Raymond J. Walter, 511 Fifth Ave., New York 17.

March 7-10—American Society of Bakery Engineers; Edgewater Beach Hotel, Chicago, Ill.; sec., Victor E. Marx, 1354 LaSalle-Wacker Bldg., 121 W. Wacker Drive, Chicago 1, Ill.

Mar. 13-15—New York State Assn. of Manufacturing Retail Bakers, Inc.; Hotel Syracuse, Syracuse, N. Y.; Gen. Chmn., John McNamara, 118 E. Fayette St., Syracuse 2, N. Y.

April 14-16 — Southern Bakers Assn.; Vinoy Park Hotel, St. Petersburg, Fla.; sec., E. P. Cline, 703 Henry Grady Bldg., Atlanta 3, Ga.

April 17-18—Rocky Mountain Bakers Assn.; Albany Hotel, Denver, Colo.; sec., Fred Linsenmaier, Box 871, Denver 1, Colo.

April 17-19—Texas Bakers Assn.; San Antonio; Sec., Nell DeLaney, 1316 W. Twohig St., San Angelo, Texas.

April 26-27—Allied Trades of the Baking Industry of Southern California; Sec., Phil Seitz, P.O. Box 518, Montrose, Cal.

April 18-20—Pacific Northwest Bakers Conference; Multnomah Hotel, Portland, Ore.; sec., Roger Williams, 1138 Jefferson St., Salem, Ore.

April 24-27 — Associated Retail Bakers of America, Sans Souci Hotel, Miami Beach, Fla.; sec., Trudy Schurr, 735 W. Sheridan Road, Chicago 13, Ill.

May 9-10—Associated Bakers of Minnesota; Radisson Hotel, Minneapolis; sec., J. M. Long, 623 Fourteenth Ave. S.E., Minneapolis 14, Minn.

June 4-6—Pennsylvania Bakers Assn.; Bedford Springs Hotel, Bedford, Pa.; sec., Theo Staab, 5700 N. Broad St., Philadelphia.

June 11-13—Bakers Assn. of the Carolinas; Ocean Forest Hotel, Myrtle Beach, S. C.; Sec., Louise Skillman, 2608 Portland Ave., Charlotte, N. C.

June 20-22—Potomac States Bakers Assn., the Cavalier Hotel, Virginia Beach, Va.; sec., Emmet Cary, 16 McClellan Place, Baltimore 1, Md.

Oct. 1-6—Baking Industry Exposition (American Bakers Assn., Bakery Equipment Manufacturers Assn.), Atlantic City, N. J.; Sec., Harold Fiedler, American Bakers Assn., 20 N. Wacker Drive, Chicago 6, Ill.

Oct. 6-8—Natl. Bakery Suppliers Assn.; Shelburne Hotel, Atlantic City, N.J.; sec., Philip W. Orth, Jr., 304 E. Florida St., Milwaukee, Wis.

——BREAD IS THE STAFF OF LIFE——

Continental Plans Oklahoma Addition

OKLAHOMA CITY, OKLA.—Continental Baking Co. has let a $300,000 contract for an addition which will nearly double its Oklahoma City plant and make it one of the largest bakeries in the southwest.

The contract was awarded to Charles T. Hughes Construction Co., Oklahoma City. Wright & Selby are the architects.

The two-story structure will be built on the east side of the present plant at 10 W. Washington. It will add 40,000 sq. ft. of floor space, bringing the total bakery area to 100,000 sq. ft.

The construction is expected to take six to eight months.

DEATHS

Joseph Hexter, 67, former president of the Columbia Baking Co., Atlanta, died Sept. 26 in New York. He had retired from the baking company position last March because of ill health. Mr. Hexter had served as a director of the American Bakers Assn., and in 1942 was president of the Southern Bakers Assn. During World War II he served on the baking industry wartime advisory committee. Surviving are his widow, Georgia, two sons, Berman and Julian, a sister and two grandchildren.

SBA CONFERENCE

(Continued from page 13)

To produce good qualities in a cake, a baker must know his ingredients and how to vary them. Many cakes contain excess flour, he said, with dry eating qualities, toughness, and a bready texture. The baker should watch the amount of water he uses in a cake, he said, since this tends to regulate the eating quality.

Following a good formula and using quality ingredients will lead to the production of a good cake. A baker, Mr. Pickens says, must have the courage to make a good product and set the price later.

Raymond T. Bohn, Sugar Information, Inc., New York, told the story of sugar in modern bread production. Sugar, he said, is as basic to bread as flour and second in quantity among the ingredients used in bread. Either cane sugar or beet sugar is the lowest cost sweetener. It never varies in quality, is a pure chemical compound and does not deteriorate.

Some of the qualities demanded by consumers of baked goods are as follows: Freshness, eating quality, keeping quality, flavor, and good taste.

The use of sugar in a product is necessary to secure the qualities said Mr. Bohn, and listed several functions of sugar in baked goods. They are: 1. Supplies food for yeast and fermentation, 2. Increases fermentation tolerance, 3. Develops appetizing crust color, 4. Provides sweetness and flavor, 5. Controls baking time, 6. Improves softness and keeping qualities.

A panel discussion on bakery sanitation was presented by the following: Keith A. Fitch, Orkin Institute of Industrial Sanitation, Atlanta, Ga., chairman; Lloyd J. Salathe, American Institute of Baking, New Orleans, La.; and Stanley A. McHugh, American Bakeries Co., Atlanta, Ga. Leading off the discussion, Mr. Fitch said that over and above the legal requirements, the biggest reason for paying attention to sanitation lies in cost considerations. The cost of sanitation for each man for a year is estimated at $198 in a medium size plant. It takes one clean up man for each five production men, or 1½% of the total gross sales appear to go into sanitation costs. The lack of an orderly program of sanitation often leads to greater costs.

Mr. Fitch recommended four points a baker should consider in his sanitation problems. They are organization, training and supervision, study of equipment for sanitary measures, adherence to standards of Baking Industry Sanitation Standards Committee when buying equipment.

Mr. Salathe said that the trend seemed to be toward wet cleaning in a baker's sanitation program. By using water and detergents or solvents and mineral spirits, a better job and often a more efficient one can be done, Mr. Salathe said. The wet cleaning program requires no extra help. In fact, he said, most bakeries spend enough money for sanitation, but do not get the desired results. He recommended specifically that bread mixers be wet washed.

Mr. McHugh, speaking from his experience as a baker, said that sanitation is directly related to quality control. Sanitation is just good business, he said, which will pay big dividends. Sanitation will keep employees better satisfied, customers will be reassured, and better quality and bigger sales will be achieved. In his own plant, sanitation is a direct responsibility of the plant manager. A formal program is set up and periodic check up is made from the home office to see that sanitation standards are being adhered to.

Bulk Handling Discussed

The bulk handling of flour, unlike bread slicing, insures immediate actual savings of ingredient handling and, as such, particularly in the present status of industry problems, deserves very serious consideration by all segments of the industry, Ralph S. Herman, General Mills, Inc., Minneapolis, said.

"From an engineering standpoint, it is now thoroughly practical to move flour around as one pipes water. From casual consideration, the bulk handling of flour seems like a very simple matter. It is not, however, a field for the amateur, since experience has shown that the layout of bulk flour handling equipment necessitates engineering niceties. Each individual inplant installation poses a varying problem. The design of bulk transport equipment, in turn, requires specialized know-how," he emphasized.

Among the variables that must be considered are plant location as well as, of course, bakery equipment and capacity and space availability in the plant itself, the speaker said. He first reviewed systems currently available for inplant storage of bulk flour.

In assembling estimated annual charges, including interest on investment, license fee, insurance, driver expense, garage costs, supervision, gasoline, oil, tires, lubrication, repairs and maintenance, and depreciation, the anticipated cost of operation would work out to an approximate daily cost of $56.94 for the 100 miles or .07.2¢ per cwt. for an average daily delivery throughout 300 days of the year of 800 cwt. of flour, Mr. Herman said. If local regulations necessitate supplying more than one man to each truck, or if local load weight restrictions would prohibit an average load of 400 cwt., these estimated costs would naturally be increased, he said.

"There is little possibility of condensation in transit if the flour is tempered prior to bulk loading," Mr. Herman said. One would expect some evidence of upper-surface condensation in 93° F. flour, fresh from the rolls, were pumped into a cold Airslide car. Flour handled in bulk normally undergoes considerable aeration prior to usage, and a substantial number of firms have for many years successfully converted Tote-binned flour within from one day to several weeks following milling."

It is expected that the bulk handling of flour will encourage bakeries to maintain a lower inventory position on flour than is normally considered good practice with sacked shipments.

Of course, the big punch-line for bakery management is the question, "How much will it cost us to equip ourselves for handling flour in bulk and how long will it take us to write off the capital investment?" An experienced engineer can estimate, within a reasonable degree of accuracy, both the material and installation costs; but no one can specifically pre-determine the net savings through such an installation, since many of the factors that can contribute are intangible and will differ with each bakery installation and location, the speaker said. Experience, however, has shown that, in general, the gross savings at the present time should amount to, roughly, 20¢ per cwt. The savings on sacks will contribute at least 11¢ of this amount. A further savings in flour wastage, predicated on current values, will approximate 1½¢ per cwt. Additional savings can be expected from a material reduction in car unloading costs, the elimination of broken bags, the lower cost of warehousing the flour, the possibility of substantial inventory savings, greatly improved plant sanitation, with materially lowered housekeeping costs, and an immediate stabilization of dough-absorption levels because of greatly improved uniformity of the moisture level of the flour when put into production.

Holding Price Line Urged

Martin Eisenstaedt, American Stores Co., Philadelphia, Pa., warned bakers against raising prices further. He admitted that bakers are caught in a price squeeze, but said that competition is so keen for the food dollar that bakers might price themselves right out of the market.

Mr. Eisenstaedt to'd the production men present that instead of raising prices, they might consider the installation of machinery to cut production costs. Mr. Eisenstaedt spoke on the subject, "Automatic Equipment—Its Operation for Profit." The production man's job, he said, is to use quality ingredients and turn them into quality products at the lowest possible cost.

A report on icings, "How to Select, Prepare and Apply Them," was given by Myron P. Sadler, Basic Foods Sales Corp., Atlanta, Ga. Mr. Sadler urged that more study and attention be given to icings and fillings. Icings, he said, must do a double job. They must make the bakery product so appealing that a housewife will be attracted to buy it; also, they must be delectable. In other words, a baker must strive to make his baked goods so tempting and appetizing that they virtually sell themselves. "And most important—that they resell themselves to the most critical taste panel of all—the family dinner table, when appraised," he said.

Brew Fermentation

The final presentation on the program was a discussion by a panel on "Continuous and Brew Fermentation Methods Using Conventional Makeup Equipment." The panel chairman was J. E. Mapes, Anheuser-Busch, Inc., New York, N.Y.; William A. Richards, the Brolite Co., Minneapolis, Minn.; and Andrus F. Reising, Sunrise Bakery, Inc., New Orleans, La.

Mr. Mapes presented the background on brew fermentation. Many old timers, he said, have used a type of brew fermentation to make what is known as batter sponges for producing bread in a hurry, and while basically it is about the same as a liquid ferment, there is an amount of flour used in batter sponges. The theory is that a liquid sponge will ferment much more rapidly and produce a better tasting and better keeping loaf of bread than a fast, no-time straight dough. Most bakers use this method only when they are in a hurry to get bread, but, as stated before, it is a system similar to brew fermentation.

Several wide-awake production men, learning about the brew method of continuous processing, did some experimenting with brews more than three years ago, which were take-offs of the John Baker process. Some of the early experimenters with this method came up with good saleable bread, made with conventional equipment, he said.

"There are at present several installations," said Mr. Mapes, "functioning on a daily basis on a small percentage of the plant output, producing a very good loaf of bread with few exceptions, using the single batch brew method. One of the problems that seems to prevail has been partly due to a lack of proper control and stability, causing a poor interior loaf characteristic. This batch method is also the basis for the continuous production of bread as advocated by J. C. Baker and his dough maker process.

"The basis of the batch fermentation method is strictly yeast, sugar and water, although in the final analysis yeast nutrients are used to encourage more rapid fermentation. They also have found that an amount of salt, up to 1½%, has a stabilizing effect on this particular brew. All other ingredients are thrown into the mixer with this fermented brew and made into a straight dough, and in the continuous process, of course, it is on a pre-mix through a developer and depositing it direct'y into the pan; but in the batch-type conventional make of the dough, after being mixed, is allowed to ferment for a period of about 45 minutes and then made up in the usual manner on regular bakery makeup equipment.

"More recently the milk people devoted considerable time and effort in advocating a system in which quantities of powdered milk were used in the brew, and it was claimed for this particular method that it added greater stability to the brew and, in so doing, permitted large batches of fermented brew to be held over and used as desired in the production of bread and other bakery merchandise.

Milk Useful in Brew

"Whi'e there is a divergence of opinion on those in the industry with the milk people on their contention that 6% milk is essential in the brew, we do have facts to prove that a quantity of milk in the brew definitely adds stability and keeping qualities to the brew that enables it to be held over a period of time providing proper controls are used in the process.

"It is quite essential, to our way of thinking, that the brew—after ferment—be brought to a cool temperature—in the forties. This will give proper control of dough temperatures; avoid further yeast activity; and avoid increased growth of bacteria and a change in the pH. It also is quite necessary that the brew not be cooled too rapidly as it can have an adverse effect on the yeast cells present in the brew. It should take from two to four hours to cool the brew, although where a very small change is to be made in temperature and the brew used immediately, the heat exchanger can be used quite successfully.

"While we know from published statements that sugar is an essential requirement for fermentation, we also know that fermentation is dependent on the quality of sugar and the rate of feeding. As a consequence, experi-

(Continued on page 58)

BAKING HELPS from The American Baker's Reader Service Department

Baking Publications:

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BREADMAKING—ITS PRINCIPLES AND PRACTICE (3rd edition)
By Edmund B. Bennion

An Oxford University Press book, dealing with the production of bread in plant bakeries. Bread recipes are given. Revised sections on fermentation, hydrogen concentration and colloidal formation of dough. Chapters on machinery and ovens are extended to include chapters on bakery construction, air condition, bakery organization, costs, etc. The author is British and his treatment of the subject is from a British viewpoint. **$6.75**

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SBA CONFERENCE

(Continued from page 56)

ments were conducted as to the proper amount of sugar needed in the brew. Quantities from ½% to as high as 6% have been tested and different rates of feeding also have been tested. It is our conclusion that aproximately 3% of sugar is adequate to give plenty of yeast activity and create proper fermented characteristics in the brew, and while one prolongs yeast activity by adding sugar at one hour intervals, there is no apparent necessity for doing this since brews made with sugar fed at different intervals do not seem to react any differently than those made in which the sugar is all placed in the brew at the start of fermentation.

"Varying amounts of milk also have been used, and it is our belief that from 3 to 4% of milk in the brew gives the best results. The balance of 6% can be used in the dough side.

"Salt seems to have a great effect on the brew in its ability to vary the final pH of the brew and to control, as it does in a sponge, the yeast activity. With the full quantity of salt, yeast gas production is held at a minimum rate while with lesser amounts of salt the activity increases. One percent of salt in the brew gives better results than do the full amounts —the balance of the salt being used in the dough.

"In the brew methods in which milk is not used in the brew, the full quantity of yeast, normally 3%, is used in the ferment and it has not been found necessary to add additional yeast on the dough side. However, in the milk brew process it has been found an advantage to use part of the 3% of yeast in the dough side in order to accelerate the pan proof time."

Mr. Richards, next speaker on the panel, discussed the proper use of yeast food and oxidizing agents, as well as methods of properly controlling the pH in the brew fermentation methods. A pH of 7 is neutral, he said, and lower than 7 is acid. The lower the pH, the higher the acidity. Ferments using milk range from 4.2 to 5.2 pH. He disclosed the pH figures on two ferments, the first one using milk. After one hour, the pH of the ferment using milk was 5.3; two hours, 5.2; three hours, 5.2; four hours, 5; 5 hours, 4.9; 24 hours, 4.82.

On a ferment using calcium carbonate, after one hour the pH was 3.3; two hours, 3.2; three hours, 3.2; four hours, 3.3; five hours, 3.3, and 24 hours, 3.7.

Mr. Richards warned that occasionally in bread produced by the brew fermentation method, flavor changes abruptly for the worse after three days. He suggested that three loaves be put aside from each production. A loaf should be opened each day for three days after the production to make sure that the bread is all right.

Mr. Reising, who has used the brew fermentation method in his plant, started by making mostly French bread with it. He was successful at first, but experiments showed that he was not using enough sugar. He boosted the sugar from 2% to 3% and the results were favorable. He says his French bread now has a

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superior flavor and a crisper crust, and does not dry out as quickly.

In adapting the brew process to pan breads, he used ordinary formulas. He uses the batch methods, with a barrel for fermenting. The temperature is at 85 degrees and dry yeast is used in the brew. The dough requires additional mixing time but the brew is not as susceptible to the temperature variations as the sponge or straight dough method. For the process, the machining qualities are good, mixing time is less than normal, baking qualities are good, flavor is excellent and interior characteristics of the bread are as good as normal.

Retail Session

A record attendance of 150 marked the retail bakers special session held Sept. 26 as part of the production conference. This interest, officers of the SBA said, virtually assures that the retail bakers session will be an annual feature of the production conference.

A lineup of highly rated speakers covered an extensive list of sales and production problems with the bakers present. The meeting was called to order by the conference chairman, Mr. Stroupe. Vaughan Vincent, Vincent's Bakery, Eastpoint, Ga., delivered the invocation. Words of welcome were heard from Sanford V. Epps, H. H. Claussen's Sons, Inc., Augusta, Ga., president of the Southern Bakers Assn. The Session chairman was Guy E. Wyrick, Procter & Gamble, Atlanta, Ga.

Annual Banquet a Feature

The annual banquet, held the evening of Sept. 27 in the Exhibition Hall of the Biltmore, was attended by close to 300. W. Hugh Adcock, Corn Products Sales Co., Atlanta, Ga., was the master of ceremonies. Dr. Harvey C. Hahn, Dayton, Ohio, was keynoter. During the evening, James E. Stroupe, Atlanta, Ga., who was chairman of the convention, and who will return at the end of the year as president of the Southern Bakers Allied Assn., was awarded a plaque on behalf of the allied association. The presentation was made by Jack Lanum, Anheuser-Busch, Inc., Atlanta, Ga. Mr. Stroupe in turn was presented a watch on behalf of the Southern Bakers Assn. by Sanford V. Epps, H. H. Claussen's Sons, Inc., Augusta, Ga., SBA president.

At the luncheon, sponsored by the SBA Allied Assn., William F. Thie, Virginia Bakery, Cincinnati, Ohio, was the speaker. He called attention to the importance of the retail baking industry and urged that every effort be made to improve bakery products.

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THE AMERICAN BAKER

MANAGEMENT FOR PROFIT

(Continued on page 51)

hold in bakeries. Few can quarrel with the fact that it costs money to keep a shop clean. What is less understood, however, is the need for close cooperation between shop and cleaning department. If the bakers carelessly blow dusting flour into all corners of the plant when cleaning equipment, the janitors will face an endless task. Not only will the mess be hard to clean, but it will be tracked into departments far from the production area. Each section of the plant should have brooms on wall brackets, easily accessible, so that each crew can sweep up flour before it can be found fouling up casters and shoes on the shipping room floor.

Wherever possible mixers and bakers should clean dough pieces from their equipment when production is finished, rather than waiting for it to grow as hard as cement. In many mixers a small amount of water is run into mixers after the last dough and allowed to splash about with the mixer arms running. This enables the mixer to clean his machine while busy at some other task. After 20 minutes or so he can empty the mixer and spray the metal lightly with oil to prevent rusting.

If floors are swept frequently, of course, the task of maintenance is minimized. Trash barrels should be brightly painted and placed in convenient positions to enable the baker at work to dispose of bags and wrappings without undue effort. The cleaning crew should have a written schedule for emptying such barrels, just as they should have an itemized time list for all their daily and weekly jobs. Only by such careful supervision can the manager reduce the cost of janitor labor.

Other items of shop expense that the manager should heed regularly appear in the cost report as steam fuel, oven fuel and light and power. In a sense, these expenses are blood relations, for they all get out of hand in the poorly scheduled plant.

If there are long, unplanned intervals in the daily production flow, then the proof box, the ovens and the conveyor belts are empty too often, consuming steam, fuel and power, while lights burn over an idle plant. A high steam cost may indicate a boiler that needs cleaning, although it often indicates that some one is careless, wasting steam through turning on the proof box too early or failing to shut it down when production is finished. Oven fuel expense may be excessive for the same reason, as well as for dirty nozzles or otherwise inefficient burners. Since lighting consumes only about 20% of the average power bill, a high electricity bill may alert the baker to calling in an outside expert to appraise his plant needs.

It is often said that we are not ruined by ignorance but rather by the knowledge, previously acquired, that we have forgotten. The bakery manager of today, no matter how alert, how energetic, cannot operate without the daily, monthly, yearly buildup of figures that tell him how he has done against other bakeries. The cost report, properly used and respected, can give him this perspective.

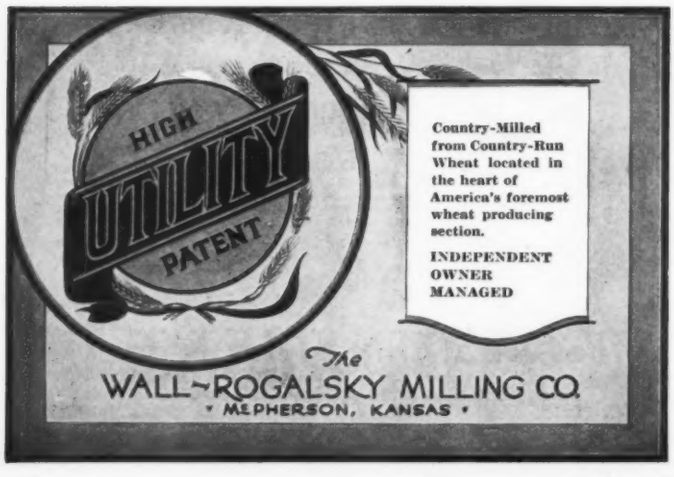
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LAKE MICHIGAN

(Continued from page 16)

much as $10,000 a month more than it should have.

"From experience we know that 95% of all the trouble with people dates not from overwork but from idle moments," Don F. Copell, Wagner Baking Co., Newark, N.J., said in his address on personnel problems. "The shortening of the work week with its increased idleness gives people more leisure time and a need for more money to pass those extra few hours."

The objectives of labor and management coincide, Mr. Copell said.

We all want security. We want the right to work continuously at fair and reasonable wages.

Advancement — We want just a good old American chance to get on in the world, to go up on the ladder of success if we do our fair share without tripping over some relative on the way up.

Fair Treatment—We all want to be treated like a decent, respectable human being at all times. We all have personal prob'ems, temptations, ambitions, loves, hates, likes and dislikes. We want others to recognize and appreciate it.

"Where human behavior is concerned many people have not as yet arrived at a point where they can think in terms of reason and causes in the same way as they think of changes in the physical system," Mr. Copell said.

We must appreciate the fact that in many instances the individual is just as little responsible for this behavior as he would be for developing pneumonia or typhoid fever.

In both instances he is the victim of circumstances in the sense that environment factors make him behave as he does.

Good Working Conditions—A decent place to spend one-third of our lives is not too much to ask of anyone. A dirty, disorderly bake shop is never an efficient one.

Human dignity—Inside of all of us is an inert desire for simp'e, genuine human dignity.

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Information about job and company—We want to know where we stand. We are interested in how our company is doing, what its problems are, and we all want to know (before the general public reads it in the papers) any news pertaining to our jobs or our company.

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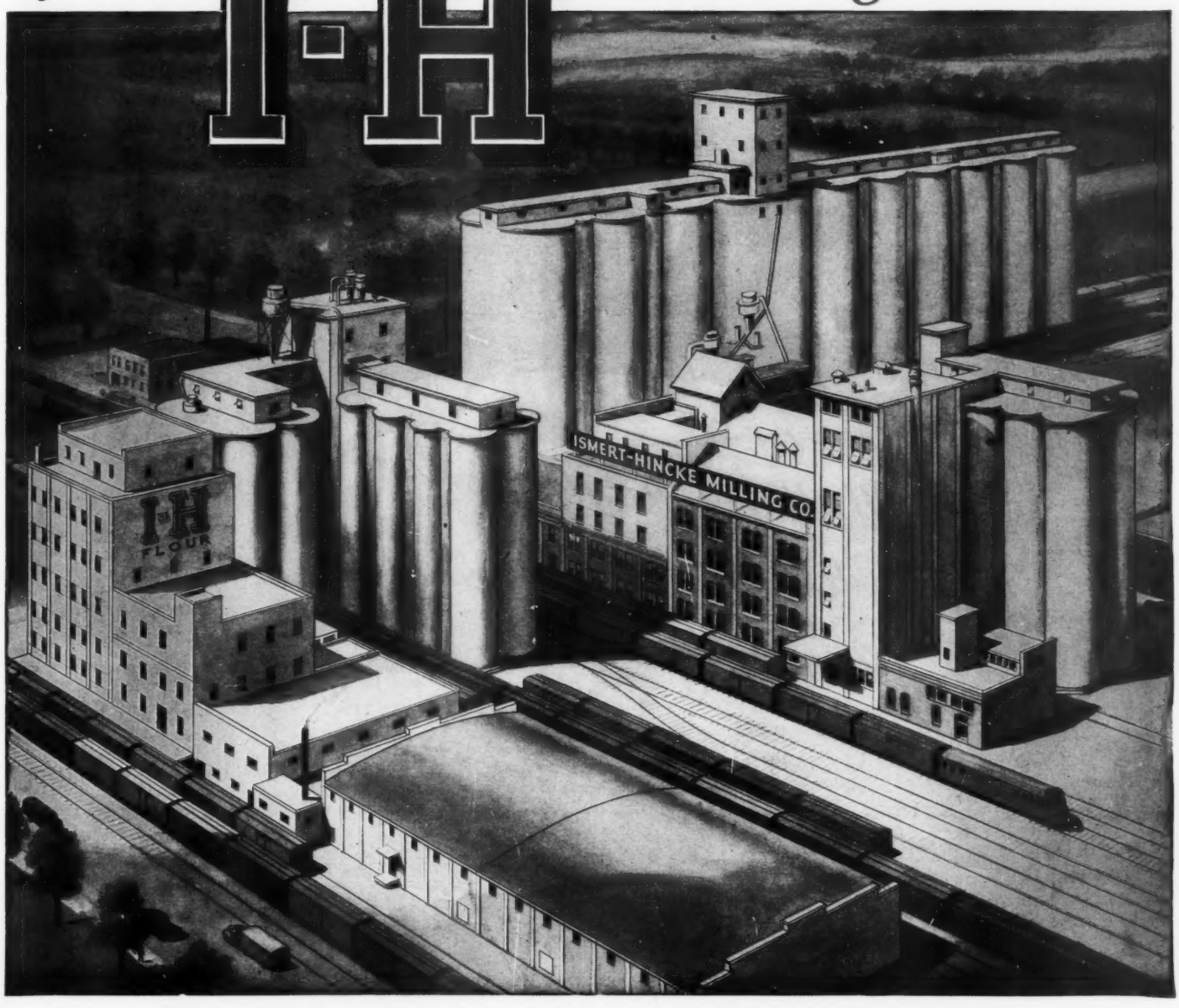
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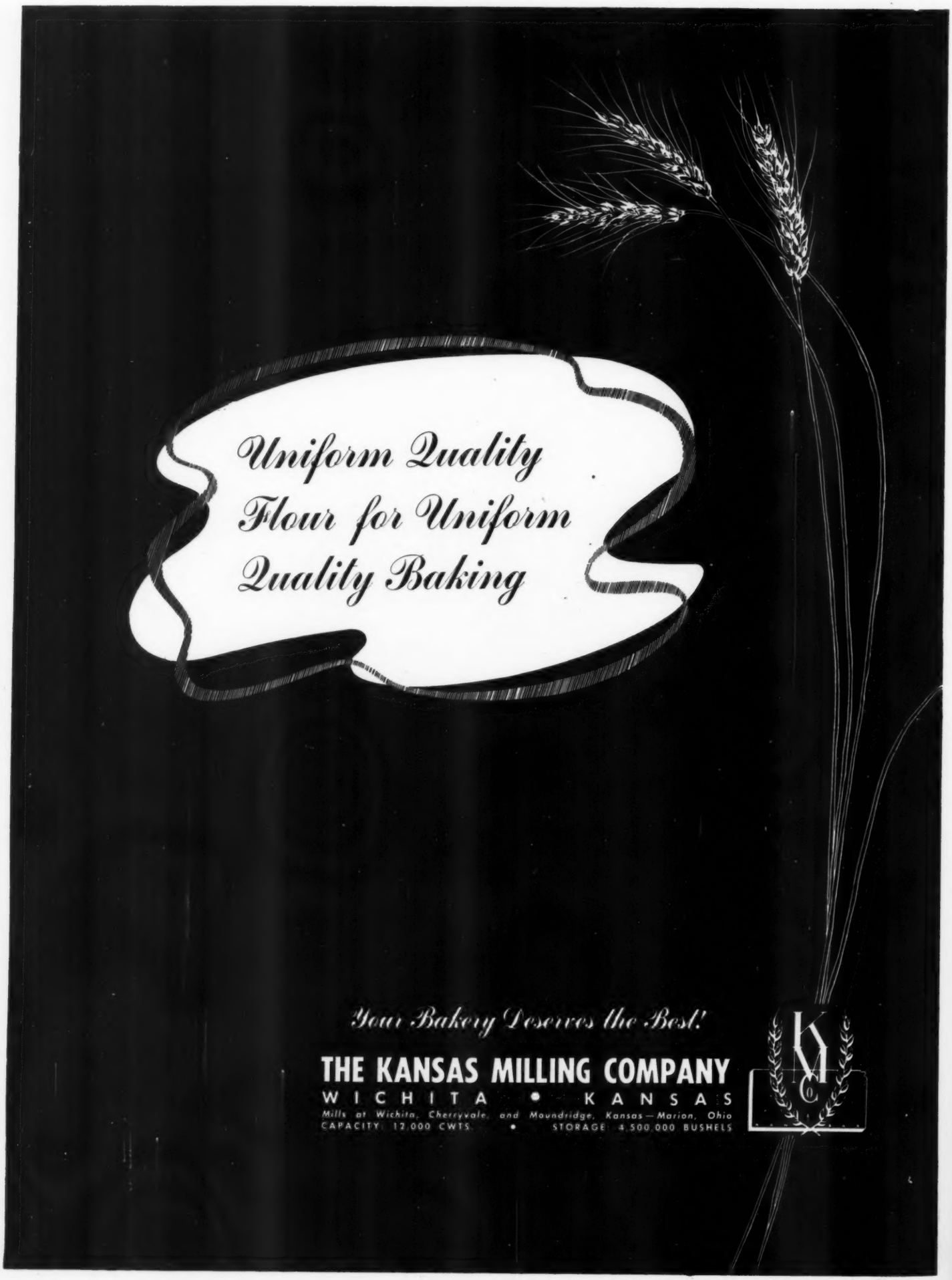


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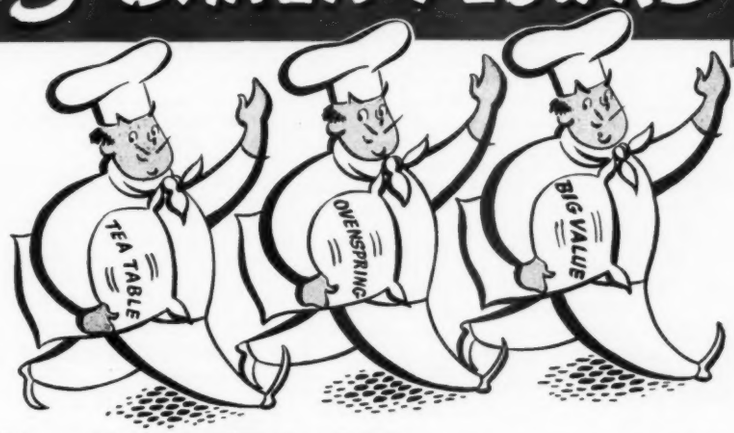
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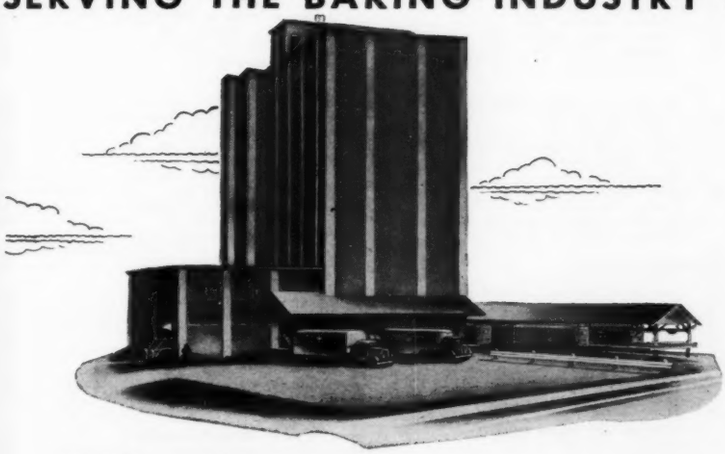
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Colorado Food Law Revision Considered

DENVER—The Colorado Board of Health has begun preparatory work on possible revision of the state's pure food and drug law. A committee of prominent business and professional men has been appointed to write a new law, which will be presented to the next session of the Colorado legislature.

Arthur Vos Jr., Macklem Baking Co., Denver, represents the baking industry on the committee. These facts were brought out in a short talk by Mr. Vos at the recent meeting of the board of governors of the Rocky Mountain Bakers Assn. held in the Oxford Hotel here.

Mr. Vos asked the bakers of the state to cooperate by supplying him with suggestions in regard to their industry and which they consider should be incorporated into the new law. He further stated that public hearings will be held this fall at which time individuals and groups will have a chance to express their opinions on the new laws.

During the board meeting F. L. Keading, Mayflower Doughnut Corp., Denver, was elected to fill the unexpired term of Jack Jacobson on the board.

The suggestion that the Rocky Mountain Bakers Assn. sponsor a convention of the Associated Retail Bakers of America within the next two or three years was received favorably.

The 1955 convention of the Rocky Mountain organization was tentatively set for April 24-25. It was pointed out that bakery union contracts expire May 1 and since, after that time, baking firms in Denver would be tied up with negotiations with the union over a new contract it was deemed best to hold the 1955 convention earlier than usual.

Eddie Gonzales, Miller Super Markets, Denver, and recently elected president of the association, presided at the meeting. The report of Fred Linsenmaier, secretary, on income and expenses of the recent convention was approved.

AIB Fall Course Has Predominance of Youths

CHICAGO — Industry spokesmen who fear there will be no young men to replace them may take courage from the current class at the American Institute of Baking. Forty-six men are enrolled, and since their average age is 27 years, they may be regarded as being at the start of their careers. All of the students are high school graduates and several have college backgrounds.

Baking science and technology, offered twice each year by the institute school, is a five-month course with emphasis on theory and science. Production and laboratory sessions are experimental in nature and planned to illustrate the scientific principles taught in class sessions.

Members of the current class who successfully complete their studies will be awarded certificates of graduation on Dec. 17, 1954.

—BREAD IS THE STAFF OF LIFE—

WORLD FOOD SHOW SET

NEW YORK — An international food show, the first ever staged in the U.S., which will display delicacies and staples from countries all over the world, will be conducted at Kingsbridge Armory, New York, Feb. 21-27, it was announced by Imported Food Promotions, Inc., 7 Park Ave., sponsor of the exposition.

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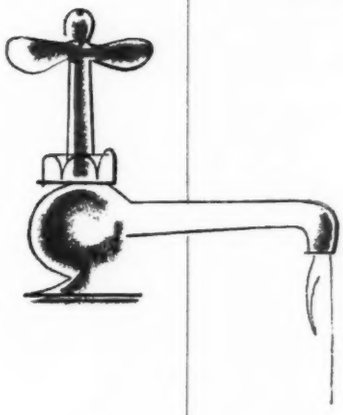
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